

MACMILLAN'S
GEOGRAPHY READERS

BOOK IV



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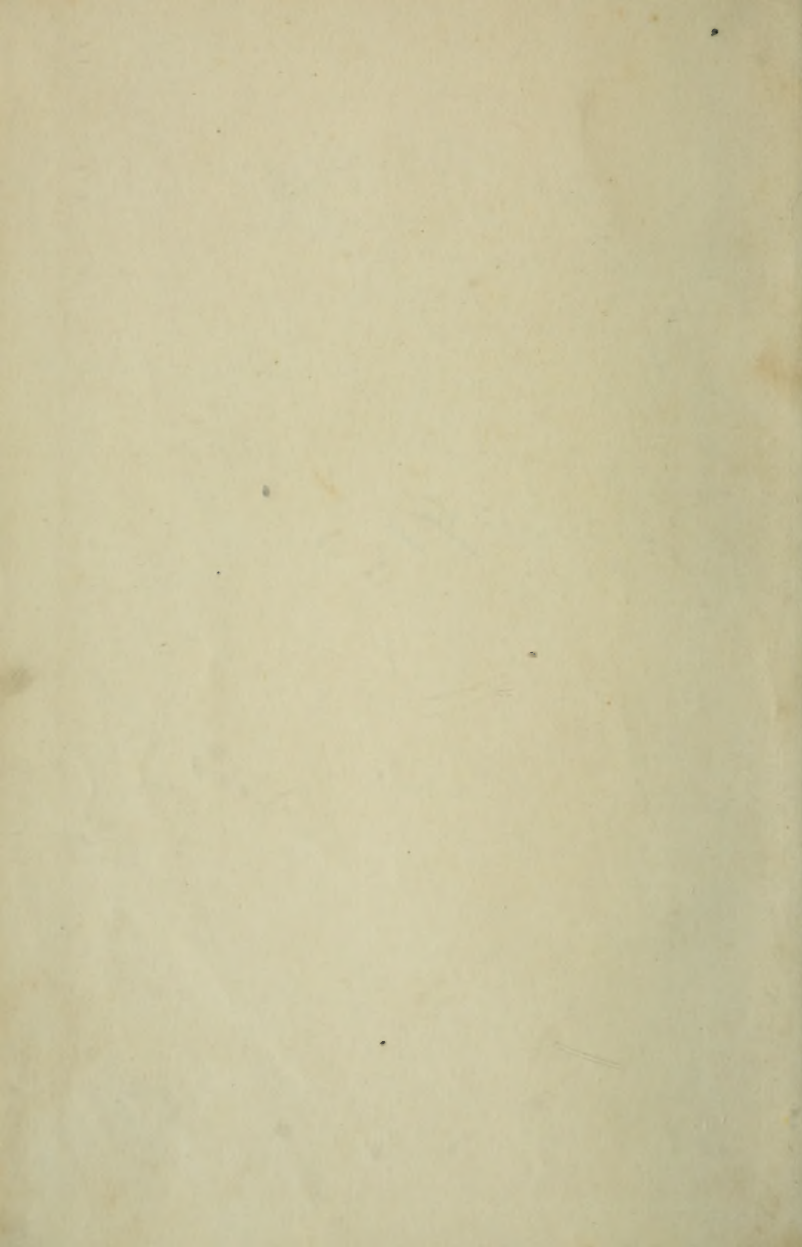
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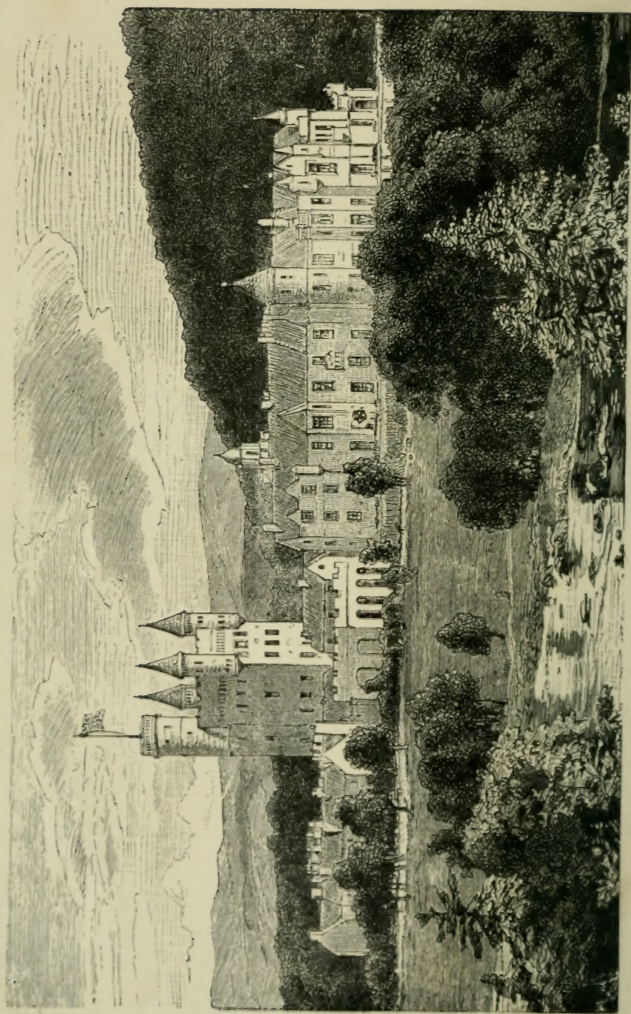
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MACMILLAN'S GEOGRAPHY READERS
BOOK IV



BALMORAL, THE SCOTCH RESIDENCE OF THE KING AND QUEEN.

MACMILLAN'S
GEOGRAPHY READERS
BOOK IV

THE BRITISH EMPIRE

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MACMILLAN'S GEOGRAPHY READERS.

THE BRITISH ISLES.

1. The British Isles (1).

1. The British Isles lie in the Atlantic Ocean, just off the western coast of the continent of Europe. Look at your school-room map, and you will see they are divided from the mainland by the North Sea, the Straits of Dover, and the English Channel, which are parts of the Atlantic Ocean.

2. The islands number some thousands in all. Two of them are large and important, and several hundreds are large enough to be inhabited, but by far the greater number are little more than masses of bare rock.

3. The largest island is called Great Britain. It received its name, *Great* Britain, many years ago, to distinguish it from *Minor* Britain, or Brittany, in France. The southern part of the island is called England. When speaking of

England we include Wales. Scotland occupies the northern portion.

4. Ireland, the second largest island, lies to the west of Great Britain, and is separated from it by the Irish Sea, and a broad sea-channel named St. George's Channel.

5. The lesser islands lie chiefly off the western coasts of the two larger islands. The most important are the Channel Islands, and the Isles of Wight, Anglesey, and Man, off the English coasts; and Bute, Arran, Lewis, and the Orkney and Shetland Islands off the coast of Scotland.

6. Great Britain is a long, narrow island, running nearly north and south, with a very broken and irregular coast-line. You will see from the map it is much broader in the south than in the north. Ireland, though possessing a similar coast-line, is much more compact in form.

7. Great Britain, which is the largest island of Europe, has a surface measuring nearly 89,000 square miles. Scotland is about half the size of England and Wales, and Ireland is a little larger than Scotland.

8. The population of England and Wales is over thirty-two millions. Scotland has a population of about four and a half millions, this is two millions less than London alone. Ireland has nearly four and a half millions.

9. The seas around the British Isles are

shallow. If the bed of the North Sea were raised some 600 feet, we should be able to walk across to the countries on the other side.

10. People who have studied the subject think that, long ages ago, dry land occupied the place of our present shallow seas, and that, therefore, the land which now makes the British Isles was then a part of the mainland.

3. *Minor.* Smaller.

6. *Compact.* Pressed closely together.

2. The British Isles (2).

1. The British Isles enjoy many advantages from their position, from their irregular outline, and from the variety and abundance of the useful rocks and metals to be found beneath their surface.

2. Firstly, their position in the Atlantic Ocean has a marked effect on their climate. The warm winds and water currents from this ocean bring warmth and moisture, which prevent extremes of heat and cold, so that we enjoy what is called an *equable* climate.

3. Secondly, their position in the ocean, between the Old and New Worlds, and in the highway of trade between them, gives them an advantage for trade and commerce, so great that

Britain has become the greatest commercial country in the world.

4. Thirdly, it is owing to the sea that the United Kingdom has won its place as a great naval power. We live on islands, and can have neither trade nor communication with other countries, except across wild and stormy seas. Hence we have trained up a race of brave and hardy sailors, perhaps the finest in the world.

5. Fourthly, their position in the ocean gives to them the advantage over other countries of having tides high enough to carry large vessels up the estuaries, and into the harbours, which abound along the coasts.

6. Then their very irregular outline, allows the water to penetrate far into the land, so that no spot, even in the very heart of the country, is far from the sea. This is a great advantage for trade and commerce.

7. But, important as are the advantages which follow from the position of the British Isles in the ocean, we owe yet more to the richness and variety of their mineral stores.

8. Almost every kind of useful rock and metal is to be found in abundance; and, what is of great importance, sufficiently near the surface to be easily mined.

9. Most valuable of all, however, are the great beds of coal, extending over an area of some

3,000 square miles, for they are the source of most of our vast industries. Manufactures of iron, steel, cutlery, hardware, glass, pottery, cotton, and wool, all cluster on, or near, the great coal-fields wherever these are found.

10. We have, in a former book, described the geography of the southern portion of Great Britain, and we must now begin to study the geography of the northern portion which is named Scotland.

2. *Equable.* Even, not subject to great changes.
3. *Highway of trade.* The route taken by the ships.
7. *Mineral stores.* The minerals found in quantities beneath the surface of the ground.

SCOTLAND.

3. General View of the Surface.

1. Look at the map of Scotland on page 7. This map shows the surface of the country as seen from above.

2. We note first that the coast-line, especially on the west, is more broken even than that of England. Numerous narrow, winding lochs cut far into the land; and many narrow peninsulas stretch away out into the sea.

3. So very irregular is the coast that, though Scotland is but half the size of England, her

coast-line is 700 miles longer. There is no part of Scotland which is more than 40 miles from the sea.

4. In the second place we notice the immense number of islands, irregular in shape, lying off the west coast; and two groups of islands, the Orkneys and the Shetlands, stretching far away to the north-east.

5. Then we see that the surface of the country differs very much from that of England. It consists of two broad masses of mountains, each of which stretches across the country from west to east, with a narrow plain between them.

6. That portion of the country which lies to the north of the dividing plain is called the Highlands. That part which lies to the south is called the Lowlands.

7. The Highlands are again divided into what are called the Eastern or Central, and Northern Highlands by a long narrow glen, which runs from north-east to south-west. The great irregular mountain masses of the Eastern Highlands are called the Grampians.

8. In the next place we note that many of the long narrow valleys contain lakes. We shall learn, later on, that many of these lake-valleys are noted for beautiful scenery.

9. Lastly, we see that Scotland has many rivers; that the greater number of the larger

flow eastward; that the largest rivers—the Clyde, Forth, and Tay—have wide estuaries; and that the rivers of the west, with the exception of the Clyde, have very short courses to the sea.

2. *Loch*. A Scotch term for either a lake, or an arm of sea.

4. The Highlands.

1. A line drawn across the country from Stonehaven, on the east coast, to the Firth of Clyde on the west, marks the southern boundary of the Highlands. This boundary is a barrier of heights, forming an irregular wall.

2. These heights are broken by many openings, through which the mountain streams rush into the plain. These openings are passes, which lead into the vast mountainous district behind.

3. The whole of Scotland lying north of the line just referred to consists, for the most part, of wild rocky mountains, and lofty undulating moorlands broken by narrow valleys and glens.

4. As we have already seen, the Highlands are broken by a remarkable glen,—Glenmore, or the Great Glen,—which runs from sea to sea.

5. This glen contains a chain of three long and narrow lochs. These are linked together, and also with the Atlantic Ocean, and the

North Sea by the Caledonian Canal. A waterway is thus formed right through Scotland.



A GLEN IN THE HIGHLANDS.

6. One of the most important features of the Highlands is that the mountains are not joined

to form together great mountain chains. The whole district is made up of lofty reaches of moorland broken by confused masses of mountains, which form numerous short ridges.

7. The mountain masses south-east of the Great Glen are generally called the Grampians. In these Eastern Highlands many of the peaks reach a height of over 3,000 feet; and a few over 4,000. Ben Nevis (4,406 feet) is the highest point, and indeed the highest mountain in the British Isles. An observatory has been built on the top of Ben Nevis; and men live there all the year through to observe and note the changes in the heavenly bodies, and in the wind and weather.

8. The Northern Highlands, like the Eastern, consist of long stretches of bleak and rugged moorlands, with a mountain height here and there. Ben Attow (4,000 feet) is the highest peak.

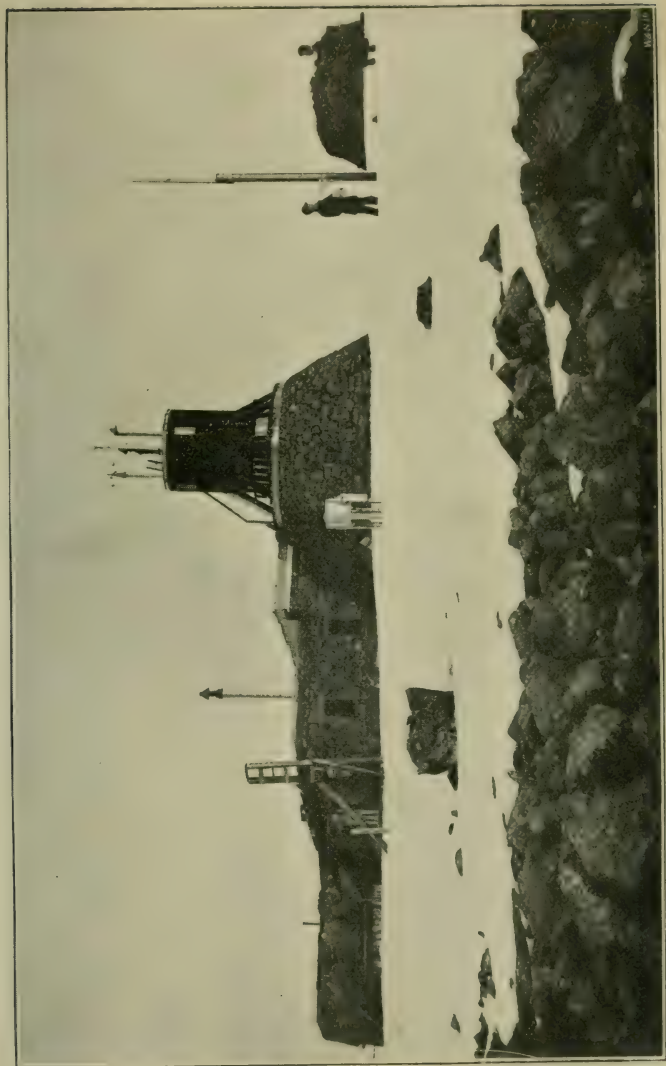
6. *Moorland.* High waste land sometimes covered with heath, sometimes rocky with sparse tufts of grass.

Confused. Thrown together without order.

7. *Observatory.* A watch tower.

5. The Highland Lakes.

1. A distinctive feature of the Highlands is the vast number of lakes, which are to be seen



BEN NEVIS OBSERVATORY.

in the mountain glens, and in the hollows of the broad moorlands.

2. Some idea of the number and extent of these lakes may be formed from the fact that, if they were all put together, they would make a sea 500 square miles in extent.

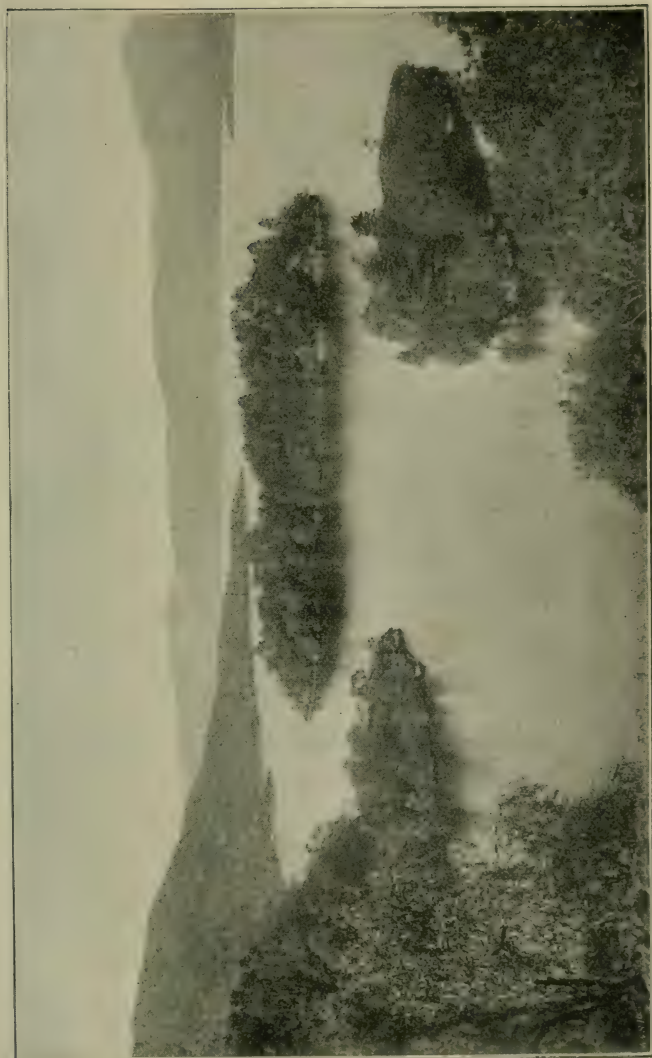
3. Some of the lakes have little to attract us; many are surrounded with wild and barren mountains; while others, fringed as they are with over-hanging trees, and studded with tree-clad islets, are noted for their beautiful scenery.

4. They are most of them long and narrow, looking more like rivers than lakes. Their waters are usually clear and transparent, and some are of such great depth that they never freeze.

5. Loch Maree, in the Northern Highlands, is surrounded by wild and massive mountains, and is studded with small thickly-wooded islands.

6. The district, which is specially marked by the number, extent, and splendid scenery of its lakes, lies in the Eastern Highlands.

7. The arrangement of the lakes resembles that of the lakes of the Cumbrian mountains, though on a larger and more splendid scale. That is, they fill the gorges which radiate from the central table-land like the spokes of a wheel. The most noted of the lakes in this group are Lochs Lomond, Katrine, and Tay.



LOCH KATRINE.

8. Loch Lomond, the largest lake in Great Britain, is 24 miles in length, and is in the form of a wedge driven up into the heart of the mountain masses. Where it broadens out to the south, it is beautified with numerous wooded islands of every form and outline that fancy can frame.

9. Loch Katrine is a smaller lake, being only about 8 miles long, "but it is famous for the romantic beauty of its scenery, and the grandeur of the approach to it through the deep gorge of the Trossachs." Loch Katrine was made famous by Sir Walter Scott in his fine poem, the *Lady of the Lake*.

1. *Distinctive.* Clearly marked.

7. *Radiate.* Running in lines from a centre.

6. The Lowlands.

1. The Lowlands include all the country south of a line drawn from Stonehaven to the Firth of Clyde. This district naturally divides itself into two parts, the Lowland Plain, and the Lowland Hills. If we suppose a line to be drawn from a few miles north of St. Abb's Head, on the east coast, to Girvan, on the Firth of Clyde, we shall separate roughly the Lowland Plain from the Lowland Hills.

2. The Lowland Hills occupy the whole of the

country south of this dividing line. They form a belt of high ground, which traverses the whole breadth of Scotland, from the cliffs of Portpatrick in the south-west to the rocky shore of St. Abb's Head in the north-east.

3. Long lines of hills and moorlands, with intervening river valleys, are thrown out to the southward, and these either link the central heights with the Cheviot Hills, on the English border, or sink in quiet, pasture-covered slopes to the shore of the Solway Firth.

4. The scenery of the Lowland mountainous district presents a marked contrast to that of the northern mountains. It is altogether quieter, and less varied in character. The hills seldom have the same wild and rugged appearance. Their broad, rounded tops, their grassy slopes, and their deep valleys, bear no likeness to the jagged peaks and rocky ridges, the crags and the stony precipices, the wild and gloomy glens, and the masses of forests, which characterize the Highlands.

5. The Lowland Plain is far from being a flat expanse of land; it is broken by numerous chains of hills. The most important ridge of high ground runs across the country parallel with the boundary line of the Highlands. The Sidlaw and Ochil Hills, and the Campsie Fells form parts of it.

6. There are other scattered groups of hills which lie in front of the Lowland Hills ; chief among these are the Pentlands.

7. Between the Ochil Hills and the Highlands a level fertile plain known as Strathmore, or the Great Valley, stretches for a distance of 90 miles.

8. A second low tract of land occupies the western sea-coast by the shore of the Firth of Clyde, and is known as Ayrshire.

9. The third and most important Lowland plain is that which occupies the isthmus joining northern and southern Scotland. It is called the Central Plain.

10. The lakes in the Lowlands are not of great importance. Loch Leven, which lies to the east of the Ochil Hills, is worthy of notice because of its historical interest. In a small island in the lake are the ruins of Loch Leven Castle, where Mary, Queen of Scots, was imprisoned, and from which she made a daring escape.

3. *Intervening.* Coming between.

4. *Precipice.* A steep rock almost upright (sometimes overhanging).

Characterize. To mark strongly.

7. The Central Plain.

1. The Central plain has coal-fields and manufactures like the basin of the Trent ; level agri-

cultural lands like the basin of the Ouse; and facilities for commerce like the basin of the Mersey.

2. "The main importance of this portion of the Lowland plain lies in the fact that it is enriched by beds of coal and iron ore, second only in value to those of Yorkshire.

3. "The coal-fields, which can be worked throughout an extent of some 1,500 square miles, have become the centre of a vast group of manufactures; and have made this central portion of the Lowland plain the most prosperous district in Scotland. Though small in extent, roughly speaking, it supports one-third of the Scotch people.

4. "To the eastward, among the agricultural plains that border the estuary of the Forth, stands Edinburgh. The geographical position of this city, commanding as it does the estuary which faces towards Europe, and the high road from London and York to the north, early made it the chief city in Scotland, and the seat of its government.

5. "To the westward, on the other hand, lies the city of Glasgow, whose outlook is towards the New World. Situated among the coal-measures of the Clyde, it owes its importance to the growth of its manufactures, and to the opening of trade with America. By its popula-

tion and wealth Glasgow has become the second city in the United Kingdom."

1. *Facilities.* Means, opportunities.

8. The Rivers.

1. The great mountain masses and moorlands in the centre of both Highlands and Lowlands are at once the sources of the rivers, and the reservoirs from which the supplies of water are drawn. We may group the rivers, into those of the Highlands, and those of the Lowlands.

2. Each of these groups, however, is divided into two smaller groups by a great *waterparting*; that is, a ridge of high land, which throws down the streams and rivers in opposite directions towards the sea.

3. The waterparting of the Highlands lies very near to the west coast. The waterparting of the Lowlands runs across the centre of the country from Loch Lomond to the Cheviots.

4. The rivers of the western slope of the Highlands are of necessity short mountain torrents, which flow direct to the sea through deep and narrow glens. They often terminate in sea lochs. There is not a single river among them of any use for trade.

5. On the eastern slope, however, the case

is very different. Here, in glens, and straths, and valleys, rivulets gather into streams, and streams into rivers: and these carry the waters through the lower valleys—gathering other streams as they go—many miles onwards into the North Sea.

6. The chief rivers of this most important group are the Spey, Don, Dee, North and South Esk, the Tay, and the Forth. The Spey flows northward into the Moray Firth. It is the most rapid river in Scotland, and is subject to floods.

7. The rivers of this group are alike in some respects. They have their head-waters at great elevations, and they get a plentiful supply of water from the rains and melting snow. Their fall is very rapid, and hence the waters are swift and shallow. They partake of the nature of mountain torrents, broken by rapids and waterfalls, rather than of peaceful rivers. They carry immense volumes of water to the sea, but are quite unfit for navigation.

8. The rivers of the Lowlands form a group of considerable importance. Those of the Eastern Lowlands are gathered up into one great stream, the Tweed, which flows eastward to the North Sea. The vale of the Tweed is beautifully wooded; and it contains some fine ruins of ancient abbeys.

9. The rivers of the Western Lowlands are divided by a ridge of hills which sends streams northward to the Firth of Clyde, and southward to the Solway Firth. One large river only enters the Firth of Clyde, and that is the Clyde itself, the only stream of importance in the west of Scotland. The rivers flowing into the Solway Firth are the Dee, Nith, Annan, and Esk, all famed for the beauty of their dales.

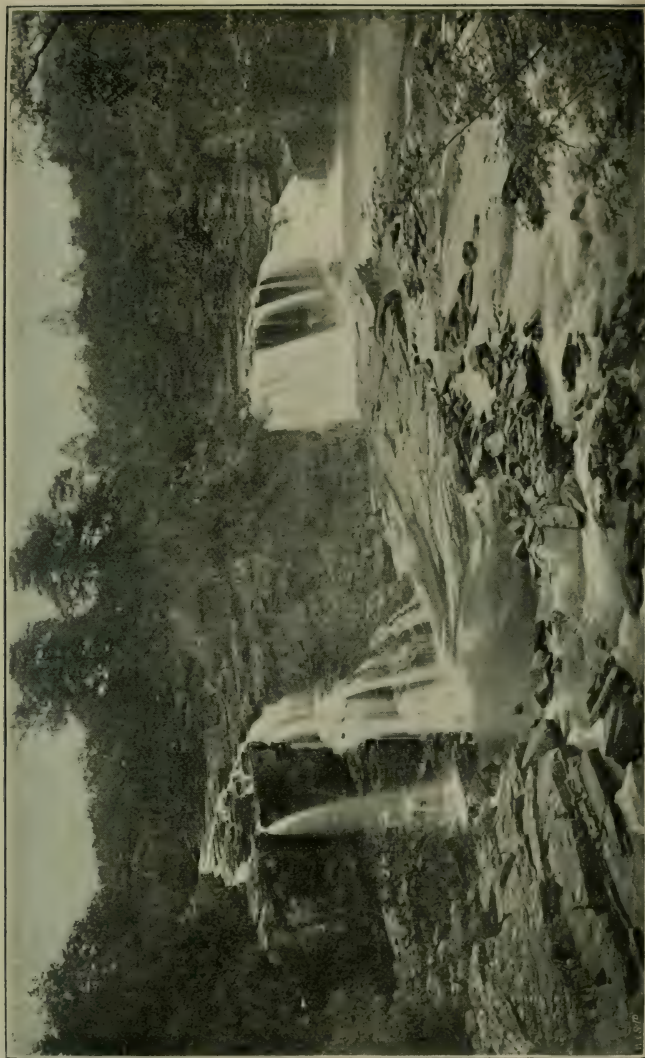
1. *Reservoir.* Store for water.
4. *Terminate.* To end.
5. *Strath.* A valley or plain.

9. Glasgow and the Clyde.

1. In a silent lonely district of the Lowther Hills the two great streams of the Lowlands, the Tweed and the Clyde, have their sources. They both flow northward for a short distance, and then turn, one eastward, and the other westward towards the sea.

2. The Clyde runs for about 40 miles through bleak moorland, and then through sloping meadows and grassy uplands as a pure and limpid stream. It then leaves the hilly district, breaking, by a series of rapid falls, into the Central plain, near the town of Lanark.

3. Here, within the space of 4 miles, we find four linns—the celebrated falls of the Clyde.



THE FALLS OF CLYDE.

The finest—Cora Linn—makes a triple leap of 80 feet.

4. Below the falls the river flows through a rich fertile valley, which here and there broadens out into a plain. In the lower valley, where the Clyde passes into the crowded district of the coal-measures, its waters become dirty and sluggish. Here stands Glasgow, the first port in Scotland, and the industrial and commercial capital of the country.

5. The City of Glasgow is very old, its Cathedral dates back to the year 1197: but its commercial and industrial activity is the growth of the last 200 years. The city owes her prosperity to the coal-fields, rich in ironstone; to her facilities for trade and commerce; and to the spirited enterprise of her citizens.

6. Less than 100 years ago the Clyde at Glasgow was so shallow at low tide that it was fordable on foot; now it has 20 feet of water, and the largest ships can be docked right in the heart of the city. This change has been brought about by narrowing and deepening the channel—a great work carried out at an enormous expense.

7. Glasgow has extensive spinning and weaving industries in silk, cotton, and wool; and iron and chemical works. Its bleaching and calico printing works were established thirty years earlier than those in Lancashire: but its chief

business lies in shipbuilding, and the shipping industry.



MUNICIPAL BUILDINGS, GLASGOW.

8 The latter industry had its humble beginning when the little "Comet," the first trading

ship in the Old World, began to ply between Glasgow and Greenock in 1812. Now, Glasgow takes the first place in Scotland and the seventh in the United Kingdom for the annual value of goods exported and imported; but it is in iron and steel shipbuilding, and in the manufacture of the necessary engines and boilers that Glasgow stands pre-eminent.

9. The towns of Dumbarton and Greenock, on the right and left bank of the estuary, are also largely engaged in shipbuilding and in the shipping trade. Greenock also does a large business in sugar-refining.

2. *Limpid.* Clear.

6. *Fordable.* Can be walked through.

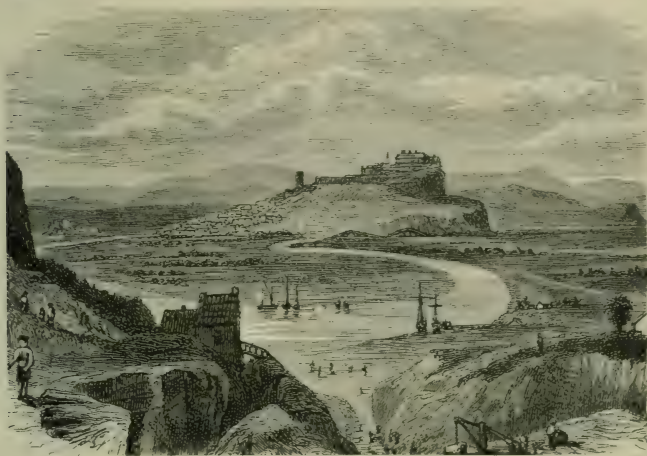
8. *Pre-eminent.* First, most noted.

10. Edinburgh and the Forth.

1. The river Forth is formed by the junction of two small streams which take their waters from Ben Lomond and the neighbouring heights. These waters tumble through steep glens till they reach the lower level, where they unite.

2. The Forth runs a winding course, mainly eastward, across a broad plain, for a distance of about 40 miles, when it passes through a broad opening between the Ochil and the Campsie Hills, into the Central plain.

3. Here, on the south bank of the river, stands the ancient town of Stirling, noted for its castle. This castle is perched on a high rock, 340 feet above the plain.



STIRLING AND THE RIVER FORTH.

4. It commands very fine views of the Grampians, the Ochils, and the "Links of Forth." The town of Stirling formerly played an important part in Scottish history. It is now the centre of extensive iron and woollen manufactures. Five miles south of Stirling is Bannockburn, where Robert the Bruce won his great victory over Edward II. of England, in 1314.

5. From Stirling to Alloa, at the head of the Firth of Forth, is a distance of about 6 miles; but, if we follow the windings of the river we

shall have to travel a distance of over 18 miles. These windings are known as the "Links of Forth."

6. The tide runs up as far as Alloa; here the river takes a straighter course, and gradually widens out into its fine estuary.

7. The Firth of Forth extends 50 miles eastward from Alloa to the German Ocean, and has a varying width of from 1 to 17 miles. It has some important towns on its banks; chief among them being Grangemouth, and Leith.

8. Grangemouth is a rising port at the mouth of the river Carron. It has extensive quays and warehouses, and docks and shipbuilding yards. The noted Carron ironworks are but 2 miles from the port.

9. At Queensferry the Firth is spanned by the largest railway bridge in the world. It was opened for traffic by the Prince of Wales in 1890.

10. Near the mouth of the Firth is a remarkable island-rock, about a mile round, called the Bass Rock. It is the home of countless numbers of solan geese, and other sea-birds, which give the rock a snowy appearance in the distance. The rock is let to a keeper, who pays a yearly rent for it, which he makes up by the sale of the young geese, eggs, and feathers, together with the fees paid by the visitors.



BASS ROCK.

11. Leith stands on the south shore of the Firth. It is a suburb of Edinburgh, and the port for the city. It has extensive docks, and shipbuilding yards; and a considerable foreign trade: and it is, besides, a great fishing centre, and the chief port in Scotland for grain.

12. Edinburgh, the capital of Scotland, lies about 2 miles south of Leith. It is considered one of the finest cities in Europe. It has an Old Town, and a New Town. A ridge of rock—a spur from the Pentland Hills—runs through the Old Town. On the western, the higher end of this ridge, a castle is built; on the eastern part stands the Abbey, and Palace of Holyrood, while behind the palace rises a hill called Arthur's Seat. Mary, Queen of Scots, once lived in Holyrood Palace.

13. Edinburgh is the seat of the chief law courts of Scotland, and one of Scotland's four Universities. It has but few manufactures; printing and publishing being the chief industry. There are some paper mills in the surrounding villages.

11. Dundee and the Tay.

1. The Tay has its head waters in the mountains in the extreme south-west of Perthshire,



GORGE OF THE RIVER ERICHT, A FEEDER OF THE TAY.

on the borders of Argyleshire, at a height of about 3,000 feet. It drains the whole of Perthshire, and carries to the sea a greater volume of water than any other river in the British Isles.

2. In its upper course in the hills it consists of two rapid mountain torrents, which unite in Loch Tay. Emerging from the Loch, it passes out of the mountain defiles into the valley of the Tummel.

3. After receiving the waters of this river—its principal tributary—it turns to the south-east, and strikes across the plain of Strathmore. Here it is changed from a mountain stream to a quiet, lowland river. It winds among rich corn-fields and pastoral lands, till it reaches the channel between the Sidlaw and the Ochil Hills, where it turns eastward to enter the estuary by which it passes to the sea.

4. The Tay has a large number of tributaries, with many a waterfall; and some of them pass through Highland lakes of great beauty. The banks of the Tay and its tributaries are in parts beautifully wooded. Perhaps the finest scenery is in the neighbourhood of Dunkeld.

5. Perth, the “fair city,” for more than a thousand years the capital of Scotland, stands at the head of the Firth. Dyeing is now its leading industry.

6. Below Perth the Firth of Tay is navigable. Here it glides for some 20 miles between the pleasantly-wooded slopes of Fife on the right bank, and the fertile district, called the Carse of Gowrie, on the left. On both banks the manufacture of coarse linen fabrics is carried on, but Dundee is the centre of the industry.

7. In population Dundee is the third town in Scotland. In industrial and commercial activity it is the second. Besides its manufacture of coarse linen cloth, sheetings, canvas, and cordage from flax, it makes immense quantities of sacks of various kinds, packing sheets, and even beautiful carpets from jute. Altogether, the value of the yearly output of flax, hemp, and jute materials amounts to over £6,000,000. The town is also famous for its manufacture of marmalade and jams. Dundee is an important port, too, with a large export and import trade.

8. The Firth of Tay, like that of the Forth, is crossed by a railway bridge. In December, 1879, during a violent gale of wind, part of the bridge, and a passenger train passing over it at the time, were together swept into the water. Not a single passenger escaped. A new and stronger bridge has since been built.

2. *Emerging.* Passing or flowing out from.

Defile. Narrow passage between hills.

12. Aberdeen and the Dee.

1. Just at the point where the counties of Aberdeen, Inverness, and Banff meet, there is a cluster of mountains, among the wildest and least frequented in Scotland. They are known as the Cairngorm Mountains. The chief heights, Ben Mac Dhui, Cairngorm, and Cairntoul, reach an elevation of over 4,000 feet.

2. It is from the springs in this cluster of mountains that the river Dee, and its tributaries, draw their first waters.

3. The Dee itself rises near Ben Mac Dhui, at a height greater than that of any other stream in the British Isles, but it falls more than 2,000 feet in the first three miles of its course.

4. In its descent it forms a number of rapids and falls, famous for their wild beauty. The falls occur about 20 miles from the source of the river, near Braemar. The most remarkable of them is known as the "Linn of Dee." Here the water rushes through a deep and narrow chasm 300 yards long, which, at one point, is scarcely four feet wide, and then tumbles over high rocks into the deep, dark basin below.

5. In its middle course Deeside is unsurpassed in Scotland for the beauty and richness of its scenery. This part is much visited by tourists in summer.

6. Balmoral Castle, the Highland home of the King and Queen, stands on the banks of the Dee, in the midst of lovely scenery.

7. Aberdeen, at the mouth of the Dee, is one of the oldest cities in Scotland. "Long ago, when Edinburgh was a mere hamlet, attached to a fortress, Aberdeen was a flourishing port, and the home of active and prosperous merchants."

8. The city still has thriving manufactures. Woollen, cotton, and linen goods, and paper and combs are made. Its exports, in addition to the above-named articles, include cattle and fish, grain and granite. Grey granite is plentiful near Aberdeen, and most of the houses are built of it. Hence Aberdeen is sometimes called the "granite city."

13. The Coast.

1. The character of the shores of any country depends more upon the structure and form of that country than upon the action of the sea.

2. When, as in the Highlands of Scotland, the country is mountainous, and the mountains stretch out to the sea, and are made of hard rocks, then the shores will consist of rocky cliffs, and bluff headlands.

3. When, as in some parts of the Lowlands, plains stretch out to, or border on the sea, then the shores will be low, and probably worn into wide bays by the action of the waves.

4. Then, again, as in the Northern Highlands, the rapid mountain torrents carve out narrow channels, making the coast jagged and irregular. Or, as in the Lowland plains, where the ground is softer, broad rivers hollow out great estuaries.

5. Bearing these facts in mind, let us examine the coast of Scotland. Look again at the map on page 7. We have already called attention to the extremely irregular and broken coast line, and to the great number of islands lying off the west and north shores.

6. We must now look at these coasts a little more closely. On the *east* coast there are two great inward curves. One, to the north, between the great mountain masses of the Northern and Eastern Highlands; the other, further south, between the Eastern Highlands and the Lowland Hills.

7. Inside each of these curves there are two estuaries: in the first, Dornoch and Moray Firth; in the second, the Firths of Tay and Forth.

8. In some parts, notably where portions of the Lowland plain stretch out to the sea, and around the Dornoch and Moray Firths, the



STACKS OF DUNCANSBY HEAD.

Stacks of Duncansby Head.

eastern shores are low and tame: yet there are many bold headlands formed by spurs from the mountain districts which project into the sea.

9. The northern half of the *west* coast differs considerably from the southern. In the northern half, from Cape Wrath to Ardnamurchan Point, the general direction of the high rocky peninsulas, and the sea-lochs between them, is north-west. In the southern half, from Ardnamurchan Point to the Solway Firth, the peninsulas and lochs generally trend to the south-west.

10. In the northern part, the inlets of the sea are, for the most part, narrow openings extending far into the land between the cliffs. In the southern part, the openings are larger and broader, and fewer in number.

11. In the south, too, we must notice two long peninsulas running southwards, Cantyre and Galloway, ending in Mulls of the same names. The north coast possesses pretty much the character of the western shore—"wild, rugged, cleft with dark fissures, and marked by rocky headlands."

9. *Trend.* Stretch towards.

11. *Fissures.* Narrow openings.

14. The Islands.

1. The islands of Scotland lie off the west and north coasts. Those on the west serve as barriers to protect the coast from the fury of the Atlantic storms. They are of the general character of the Highlands. In fact they look like pieces cut from the mainland, and planted in the sea.

2. Away to the north we see two groups of islands. These are the Orkneys and the Shetlands. The Pentland Firth, which is about six miles wide, divides the Orkneys from the mainland. The Shetlands lie about 56 miles further north.

3. The Orkney Islands number about sixty, but many of them are uninhabited. The cliffs of the island of Hoy are among the finest in Scotland. Mainland is the largest island of this group, and Kirkwall is the chief town.

4. The Shetland Islands, more than 100 in number, are "for the most part heathy wastes broken by rocks, and fenced all round by gigantic cliffs worn into wild forms by the violence of the Atlantic tempests. The climate is very wet; but the cold is not severe, and corn and grass can be grown in the sheltered plains."

5. The islands of the west coast fall naturally



"THE OLD MAN OF HOY," ORKNEY ISLANDS.

into three groups, the Outer and Inner Hebrides, and the islands in the Firth of Clyde.

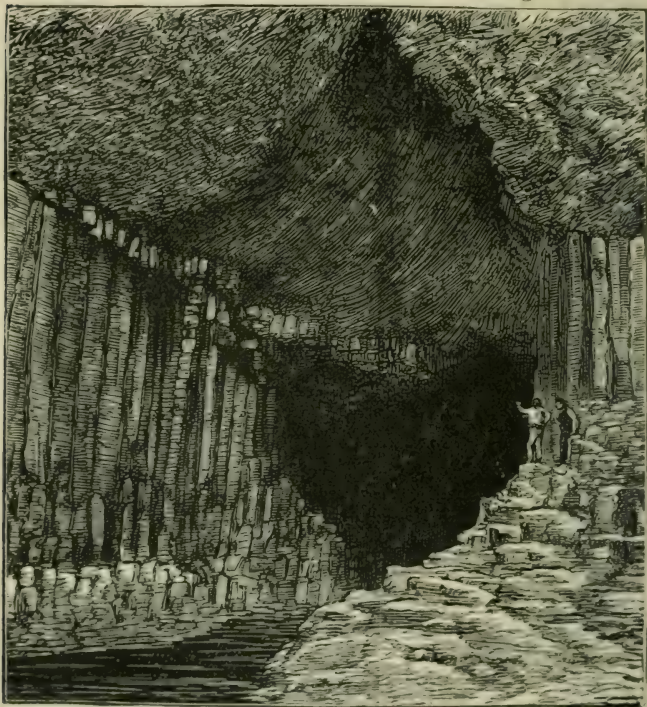
6. The Outer Hebrides form a long chain of islands in close order. They make, as we have stated, a natural breakwater, which protects the opposite coast from the full force of the Atlantic waves. The largest of the group is called Lewis, but the southern part of it is known as Harris. Lewis consists mainly of mossy moorland, but Harris and the rest of the islands are rocky, and broken by steep mountains. There are also many fertile valleys and sheltered lakes. The bold headland, at the extreme north, is called the Butt of Lewis.

7. The Inner Hebrides lie closer to the coast. Those to the north are separated from the Outer Hebrides by a broad and stormy channel called the Minch.

8. The largest of these islands, and the most irregular in shape, is the Isle of Skye. Its grand mountain scenery, and the famous district around the "stern dread lake" of Coruisk, have made Skye celebrated among the islands of Scotland. Its climate is so moist that it is sometimes spoken of as the "land of mist."

9. Two of the smallest of these Inner Hebrides, Staffa and Iona, are the most interesting. Staffa means the isle of columns, and is so called because it seems to be constructed of countless ranges of great irregular six-sided columns of rock. There are several

caves in Staffa's rocky cliffs; the largest and most famous being Fingal's Cave. The island is not inhabited, but many tourists visit it in summer, when the sea is not too rough.



FINGAL'S CAVE, ISLE OF STAFFA.

10. Iona is named after St. Columba, who came over from Ireland in the sixth century to preach the gospel to the people then living in Scotland. He made this island his dwelling-

place, and built a church. In course of time the island became a sort of holy ground to the various Celtic tribes, and its cathedral the burying-place for kings and chieftains, priests and pilgrims.

11. The third group of islands lies in the Firth of Clyde. Arran is the largest, but Bute is more important. Rothesay, the chief town of Bute, is a popular resort in summer. The scenery in the neighbouring lochs and straits is very fine.

10. *Celtic tribes.* The first tribes which we know to have lived in the countries of Western Europe.

Pilgrim. One who travels from his own country to visit a place considered to be sacred.

15. The Counties of the Northern and Western Highlands.

1. Scotland is divided into *thirty-three* counties or shires. We will consider them in three groups,—the counties of the Highlands, the counties of the Lowland Plain, and the counties of the Lowland Hills.

2. The first group includes *fourteen* counties,—*seven* on the northern and western shores, and *seven* bordering on, or near, the eastern coast. In this lesson we learn about the *seven* on the northern and western shores.

3. The rocky and barren moorlands of the north and west counties are but little fitted either for cultivation or habitation, though sheep and cattle find pasture in the more favoured spots. The people are few: there is not a single town throughout the whole central part of the district, and but few hamlets. Along the sea-coast only do we find a little port here and there, whose inhabitants make a living by fishing for herrings, cod, ling, and salmon, which they export to England and to the Continent.

4. The *Orkney* and *Shetland* Islands form two counties, having Kirkwall in the Orkneys, and Lerwick in the Shetlands, as the chief towns. The Shetlands have long been famous for a breed of small ponies, and for woollen yarn, which the women knit into many kinds of garments.

5. *Caithness* is a peninsula in the extreme north-west. Of late years some of the bleak moors and marshes in the interior of this county have been brought under cultivation. Its chief town is Wick on the sea-coast, one of the chief ports for the herring fishery.

6. *Sutherland*, from the character of its surface and soil, is at once the bleakest, the wildest, the least cultivated, and the least populated of any county in Great Britain. It affords some pasture for sheep and cattle, and there are



extensive deer forests. Dornoch, the county town, is only a fishing village.

7. *Ross and Cromarty* form really one county, for the latter is made up of pieces cut out of the former. This county, too, consists mostly of barren moorland. It has extensive sheep-walks, and the flat land round the Moray is fertile and well cultivated. Dingwall is the county town. The island of Lewis forms part of this shire. Stornoway, its chief town, is engaged in the herring fishery.

8. *Inverness*, the largest shire in Scotland, is cut into two pieces by the lochs and the canal in the Great Glen. It is truly a land of mountain and of flood, for it contains Ben Nevis, the highest point in Britain, with twenty-six other summits exceeding 3,500 feet in height. It has also a large number of rivers, and ninety good sized lochs. But little land is under cultivation. It is nearly all sheep-walks, deer forests, and grouse moors. Inverness, at the northern end of the Glen, is the county town, and the capital of the Northern Highlands. It has some manufactures—woollen being the chief—and a considerable shipping trade. The Isle of Skye and most of the Outer Hebrides are included in this county.

9. *Argyleshire* stretches along the rugged western shores from Ardnamurchan Point to the

Mull of Cantyre. It includes the islands which lie off the coast. This county, again, is nearly all mountains, and sheep-grazing and the herring fishery support the sparse population. Inveraray, the little county town, stands on Loch Fyne, a loch celebrated for its herrings. The town of Oban, on the Firth of Lorne, is the headquarters for tourists in the Western Highlands. In summer its spacious harbour is crowded with yachts and steamers.

10. *Buteshire* is made up of the islands in the Firth of Clyde, of which, as we have seen, Arran and Bute are the chief. Rothesay, the county town, has a spacious harbour, with a considerable fishing industry.

3. *Hamlet*. A cluster of houses.

9. *Sparse*. Spare, poor.

16. The Counties of the Eastern Highlands.

1. The position of the seven counties of the Eastern Highlands gives them a wild and mountainous character, resembling that of the north-western counties. But, lying as they do along the eastern shore, and extending southwards over the fertile plain of Strathmore, they include all the fertile lands of the lower river-valleys and straths, and the flat lands along the sea-shore.

2. The shires of *Nairn*, *Elgin*, and *Banff*,

WEST FRONT OF KING'S COLLEGE, ABERDEEN.

lying to the north-west of Inverness, are not of much importance. The occupations of the people

are almost entirely confined to fishing, and to tilling the fringe of fertile land along the shore. The people are clustered in villages round the little harbours of the coast. Each small county town bears the name of its county.

3. *Aberdeenshire*, for both size and population, is a much more important county. It stretches from Buchan Ness into the very heart of the Highlands. The eastern part, the peninsula called Buchan, is a tract of low, hilly country that forms the best grazing land in Scotland. Hence come the finest cattle with which the London market is supplied. This district has no towns save a few small fishery ports, of which Peterhead is the chief.

4. The bulk of the county consists of highlands, and has very few people. As the Dee pours its waters into the sea, it forms a harbour, on whose shores has grown up the fine city of Aberdeen, the chief, almost the only, trading town of the Highlands. More than a third of the population of the shire is to be found in Aberdeen.¹

5. The three other counties of this group belong only in part to the Highlands, for they extend into the plain of Strathmore, and thus embrace a part of the Lowland Plain. *Kincardine*, the smallest, lies along the coast between

¹ See Lesson 12.

the Dee and the North Esk. The county town is Stonehaven, a small fishing port.

6. In *Forfar* we have almost passed out of the Highland district, for much of the county is occupied by the Strathmore Plain, rich in corn and grass lands. The main wealth of the shire, however, lies not in its agricultural products, but in an important industry carried on in the towns on the coast,—the manufacture of linen goods. Dundee,¹ on the Firth of Tay, is the centre of this industry; but Arbroath and Montrose, on the coast, and Forfar, the county town, in the centre of the county, have also large linen manufactures.

7. *Perthshire* has about an equal area of mountain and plain. It is the only county in the Highlands without a sea-board, yet it is important, because it contains the larger part of fertile Strathmore. Its only town of any note is the city of Perth, the county town.

2. *Fringe.* Edge, border.

7. *Sea-board.* Shore, coast.

17. The Counties of the Lowland Plain.

1. There are *ten* counties in this group, *seven* of which lie in the basin of the Forth, and *three*

¹ See Lesson 11.

in that of the Clyde. Most of them are very small: the whole together occupy but an area equal to that of two-thirds of the single shire of Inverness.

2. Their importance, however, cannot be measured by their size, for these counties possess a fertile soil, plenty of water communication with the sea, and coal and ironstone in abundance.

3. It is in these counties that we must look for the mining and manufacturing industries, the great towns, the chief ports, most of the shipping trade, and the best agriculture.

4. The counties of the Forth basin are placed *three* to the north, and *three* to the south of the Firth, and *one* to the south of the river itself. The three which lie on the north, namely, *Kinross*, *Clackmannan*, and *Fife*, occupy the peninsula formed by the Firths of Tay and Forth.

5. Fife occupies nearly all the peninsula. Kinross and Clackmannan are very small, and lie back from the sea to the west and north of Fife. Clackmannan has coal and iron mines, and manufactures woollen shawls and tartans. The town of Alloa is the centre of the mining industry.

6. Fife is roughly divided by a range of hills, which runs from west to east. In the northern part lies the fertile vale of Eden, the "Howe of Fife," as it is sometimes called. Here is

situated Cupar, the county town, with a large corn market. At the eastern end of the vale we find the city and port of St. Andrews.

7. The southern part of the shire is a coal-mining and manufacturing district, and its ports on the Forth do a large shipping trade. Dunfermline is the centre of the table-linen manufacture.

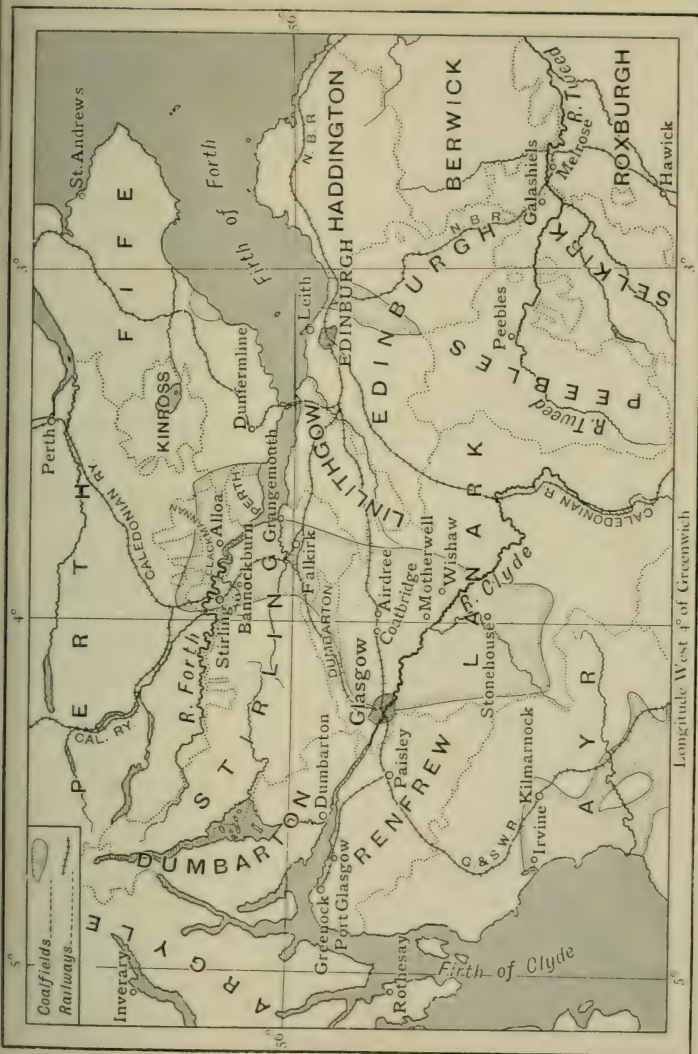
8. The county of *Stirling* stretches along the River Forth, from its source to its estuary. Stirling is the only town of any note in the county. It was at one time the capital of the kingdom, and now it has iron-works, and manufactures woollen goods. Falkirk, on the eastern border, has large cattle markets.

9. The three counties which border the estuary on the south are *Linlithgow*, *Edinburgh*, and *Haddington*. More often than not these counties are called by the old names of East Lothian, Middle Lothian, and West Lothian.

10. Agriculture is the chief occupation of all the Lothians. The city of Edinburgh,¹ with its port of Leith, is by far the most important place in the district, for it is the capital of Scotland.

11. The counties of the Clyde are *Lanark*, *Dumbarton*, and *Renfrew*. Lanark occupies nearly all the basin of the Clyde. Dumbarton

¹ See Lesson 10.



COUNTRIES OF CENTRAL SCOTLAND.

Walker & Bondall &c.

and Renfrew are separated by the Firth of Clyde. The city of Glasgow¹ is the centre of the industrial life in Scotland.

12. Other towns in Lanark are engaged in coal-mining, in smelting iron, in manufacturing steel, cotton goods, paper, and silk. Dumbarton, on the estuary of the Clyde, has large ship-building yards.

13. Renfrew is the most thickly populated county in Scotland. This it owes to its geographical position. Its eastern part lies within the coal-measures, and it has many manufacturing towns. Paisley, the largest of these towns, once famous for its shawls, now makes the manufacture of sewing-cotton its principal industry.

14. The western portion of Renfrew lies along the estuary of the Clyde, and has many of the great ship-building docks for which the Clyde is famous; and such important ports as Greenock and Port-Glasgow.

5. *Tartans.* Checkered woollen goods.

18. Counties of the Lowland Hills.

1. The counties of the Lowland Hills are very much alike in character. They consist mainly of tracts of pastoral uplands broken by narrow river

¹ See Lesson 9.

valleys and dales, suitable for sheep grazing. So thinly populated is the whole district, that there are but four towns with over 5,000 people; and two of the largest of these stand on the coal-fields of Ayrshire, which properly belong to the Lowland Plain.

2. The main water-parting of the country divides the *eight* counties into two groups of *four* each, corresponding to the two watersheds. The four south-western counties are *Ayr*, *Wigtown*, *Kirkcudbright*, and *Dumfries*; and the four north-eastern are *Peebles*, *Selkirk*, *Roxburgh*, and *Berwick*.

3. Ayrshire, the largest and most important of the southern counties of Scotland, is a long tract of country bordering the broader part of the Firth of Clyde. The northern and southern divisions of the county are hilly; but the centre is a plain with many coal-mines. Here we have great manufacturing industries — iron, carpets, tweed, hosiery, and calico. Kilmarnock is the leading town.

4. Wigtown occupies the extreme south-west corner of Scotland. Its most westerly point is but 22 miles distant from the opposite coast of Ireland. All its little towns lie on the coast. Wigtown, the county town, is little more than a village. Stranraer is a passenger port for Ireland.

5. Kirkcudbright, like Wigtown, consists mainly of broad moorland, supporting but a very sparse population. Some of the valleys however are exceedingly fertile.

6. The county of Dumfries occupies the greater part of the district which includes the valleys Nithdale, Annandale, and Eskdale. Dumfries, on the Nith, is a large town which manufactures tweed and hosiery. It is also a shipping town of some importance.

7. The four shires of the north-eastern watershed are closely linked with one great river, the Tweed. The county of Peebles forms the upper basin. Its county town, of the same name, is a mere village. Selkirk includes the wild district of the Ettrick Forest. The county town is Selkirk; but Galashiels is of far greater importance, being the chief town in Scotland for the manufacture of the well-known woollen cloth called Scotch Tweed.

8. Roxburgh abuts on the Cheviot Hills, which connect Scotland with England. The great valley of Teviotdale runs through this county; and here woollen goods and hosiery are manufactured. Hawick is the chief centre. Melrose, on the Tweed, is famous for the ruins of its old Abbey.

9. Berwick is the only maritime county of the group we are now considering. It is famous for its fertile soil and excellent farming. It

contains no large town. Berwick-on-Tweed, now an English town, was once the capital.

8. *Abuts.* Borders, runs up to.

9. *Maritime.* Bordering on the sea.

19. Climate, Productions, Industries, Railways.

1. The physical causes on which, in the main, the prosperity of a country depends are a suitable climate, fertile plains and valleys, water communication with the sea, plenty of minerals—especially coal and iron—and raw material for manufacturing purposes.

2. Let us consider how Scotland stands with regard to these desirable helps to prosperity. The climate is not extreme; that is, it is not overpoweringly hot in summer, nor unbearably cold in winter. It is a little colder, and a little more moist than that of England, and the summer is a little shorter.

3. This is a suitable climate for pasture land, for some kinds of corn, and for turnips, swedes, potatoes, and clover. It is the kind of climate, too, in which man can put forth his best energies.

4. But what of the surface of the country? This is not so encouraging. Three-fourths, or thereabouts, consists of high rocky mountains and heathy moorlands, which, being quite unfit

for cultivation, are given over to the deer and the grouse. Some of the mountain slopes, however, especially in the Lowland Hills, form grazing ground for countless sheep and cattle.

5. Many of the river valleys and strips of land along the coast are very fertile, but the chief extensive tracts of land devoted to agriculture are Strathmore, Buchan, the Carse of Gowrie, and the Lothians generally. The amount of land suitable for cultivation is small, but the thrifty people have made the most of it.

6. Now as to the water communication with the sea. All, or nearly all, the Highland rivers are too rapid and shallow to serve for the carriage of goods; but in the estuaries of the Lowland Plain,—the Clyde, Forth, and Tay, we get all that can be desired in this respect.

7. And close by these splendid waterways there is abundance of coal and iron; and these, together with a temperate climate, make the districts near admirably suited for manufacturing purposes. And so a variety of industries has sprung up, such as the manufacture of machinery and other iron goods, linen, jute, cotton, wool, and silk, together with ship-building, soap-making, sugar-refining, and the making of glass and spirits.

8. Most of the raw materials for manufacture have to be imported from other countries; and

this, together with the export of the manufactured goods, has given rise to the great shipping trade.

9. There is one other important industry, that of fishing, to which we have not referred. The fishing is of two kinds,—in the rivers for salmon, and in the seas for herring, cod, haddock, and other fish.

10. Notwithstanding that the industries of the Lowland Plain have brought a large population to this part of the country, the unproductive Highlands are so extensive that the population of Scotland as a whole is but small. It has fewer people than are crowded into London.

11. The Scotch railways are only continuations of the three great trunk lines running north from London, namely, the Great Northern and North-Eastern, the London and North-Western, and the Midland. See map on page 43.

IRELAND.

20. General Survey.

1. Ireland, the second of the two large islands in the British Isles, is set in the Atlantic Ocean, to the west of her sister isle of Great Britain. These two islands are separated by the Irish Sea, which opens out into the Atlantic Ocean by two

channels,—St. George's Channel to the south, and the North Channel to the north.

2. Look at the map on page 59. You will see that Ireland is broader, shorter, and more compact in form than Great Britain. Note the broken lines which join the Headlands: Fair Head in the north-east, Erris Head in the north-west, Mizen Head in the south-west, and Carnsore Point in the south-east. The space within these lines gives you a rough idea of the shape of the island.

3. The surface of Ireland differs very much from that of Scotland. In the latter country the mountains are in the centre. The centre of Ireland is a great plain, broken here and there by low hills. The mountain ranges border the coast.

4. The different parts of the coast mountain ranges vary very much in character. On the north and on the south they widen into broad belts of highlands. On the east and west they are narrower.

5. The river system of Ireland, too, is very different from that of Scotland. Only one large river flows through the plain, gathering its waters by many streams from the inner watershed of the surrounding highlands. Most of the others flow into the sea, direct from the outer watershed where they rise, without touching the central plain.



IRELAND, PHYSICAL.

6. The shores of the country are not so broken as those of Scotland. The west coast, like that of Scotland, is more broken than the east; and as in Scotland, too, the islands lie mainly off the west coast.

7. Ireland has an area rather larger than that of Scotland, or more than one-third as large as Great Britain. Its population numbers over 4,400,000; but it is slowly decreasing.

21. The Highlands.

1. The mountains of the north are those of Antrim in the east, and Donegal in the west, and these are connected by lower ranges, which send out spurs southwards.

2. The mountains of Antrim make a broad high table land ending on the coast in bold cliffs, such as Fair Head. The mountains of Donegal are higher and still bolder, and cut by steep valleys. These highlands also end abruptly at the coast in tall cliffs. Nearly the whole of Ireland, north of a line drawn from Sligo Bay to Dundalk Bay, is more or less mountainous.

3. The western mountains include the mountains of Connaught and Kerry, joined by the scattered heights of Clare. The Connaught mountains consist of two groups—the mountains

of Mayo, stretching over the peninsula which terminates in Achil Head, and the mountains of Connemara between Clew Bay and Galway Bay.

4. The mountains of Kerry occupy three peninsulas, parted from each other by Dingle and Kenmare Bays. The Macgillicuddy Reeks, in the central peninsula, form the principal ranges: their chief peak, Carran Tual, rises to a height of 3,400 feet, and is the highest mountain in Ireland. To the north of these heights lie the lovely Lakes of Killarney.

5. In the south, as in the north, the mountain-ring broadens out into a belt of hilly country many miles across, made up for the most part of parallel ranges having a general direction from west to east.

6. The Knockmealdown is the chief range, and this is joined to the hills of Kerry on the west. Among the chains north of this range the Slievebloom Hills are the most important.

7. The mountains of the eastern coast consist mainly of *two* groups, the Wicklow and the Mourne Mountains. Both groups are built up of masses of granite.

8. The Wicklow Mountains are the larger, and more important. Some of the heights of this range are second only to the chief summits in Kerry: and, like the Kerry, they contain some of the finest scenery in the country.

9. The Mourne Mountains form a compact group lying between the bays of Dundalk and Dundrum in the county of Down.

22. The Lowlands.

1. Nearly three-fourths of the surface of Ireland is made up of arable and pasture land; about one-sixth consists of mountains, waste moorland, mountain bogs, woods, and lakes; and the remaining one-ninth consists of the peat-bogs of the plains.

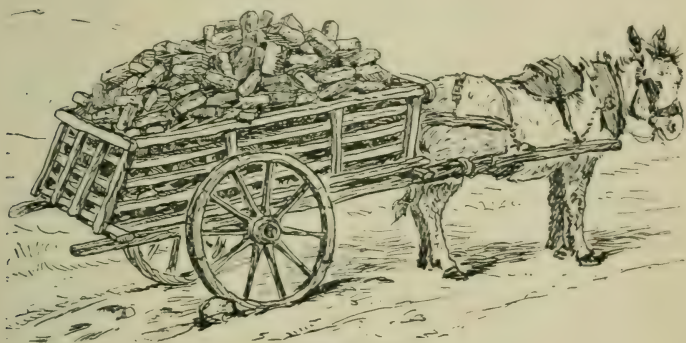
2. The great plain, which occupies the centre of the country, is an immense pasture field. It is from this verdant district that Ireland gets its name of the Emerald, or Green Isle. The plain is for the most part level, or slightly undulating, and is broken here and there by low hills. Some parts of it are beautifully wooded.

3. It is a highly fertile district, but its fertility is interrupted by great tracts of bog land, which are scattered over it.

4. These bogs are of sufficient extent to form a distinctive and interesting feature in the geography of Ireland. "No one who has travelled in Ireland can forget the desolate flats that extend for so many miles inland—a perfect sea of black peat, without a single shrub, or mound,

or any token of life, save here and there a cabin, almost more wild and sad than the bog itself."

5. What are bogs? How have they been formed? And have they any use? It is not easy to explain in a few words what a bog is, for they are not all alike. The word *bog* means soft, moist; and soft and moist they certainly are,



A LOAD OF PEAT.

sometimes soft enough to allow a man to sink into them out of sight. They are made up chiefly of the rotten remains of water-plants, mosses, grasses, and ferns.

6. Moss plays the most important part in the making of bogs; those of the central plain consist almost entirely of the decayed remains of a certain kind of moss called Bog-moss, which has grown on them for perhaps thousands of years.

7. Bog-mosses flourish in wet places ; they throw out new shoots, and form new plants above, while the old plants below rot, and get changed to peat. In this way, what were once shallow, stagnant pools may in course of time have become bogs.

8. The term Peat Bog is sometimes used to distinguish the true bog from the swamp or quagmire. The surface of peat bogs is generally level ; but sometimes the formation of peat is so great that the whole mass swells and raises itself above the level of the surrounding country ; and now and then one has been known to burst its bounds and spread a layer of peat over many acres of land.

9. There are bogs in the mountains as well as in the plains. The moss of the former is different from that of the bog of the plain, but it serves the same purpose. Bogs are black, or reddish-brown. In the brown the vegetable matter is less decayed than in the black.

10. Bogs vary in depth from four or five feet to as much as forty feet. The spongy mass, of which a bog is formed, shakes on the least pressure. Sometimes it is too soft to be walked on ; in other cases, persons who know the bog may pick their way across it by treading on the firmer spots.

11. Trunks of trees, bones and antlers of deer,

and even manufactured articles have been found in bogs in a good state of preservation, especially in black bogs. Bog-oak is used for making ornaments. Like all other woods found in the bogs, it is of a black colour.



A PEAT GIRL.

12. There is but little coal found in Ireland, and peat, cut and dried in the summer, is used as fuel instead.

13. Many fertile tracts of land lie in the smaller plains between the mountains, and some of the river valleys are also very fertile. We shall refer to these, when we consider the counties, later on.

2. *Verdant.* Green.

7. *Stagnant.* Still, motionless.

Peat. Vegetable matter more or less decomposed.

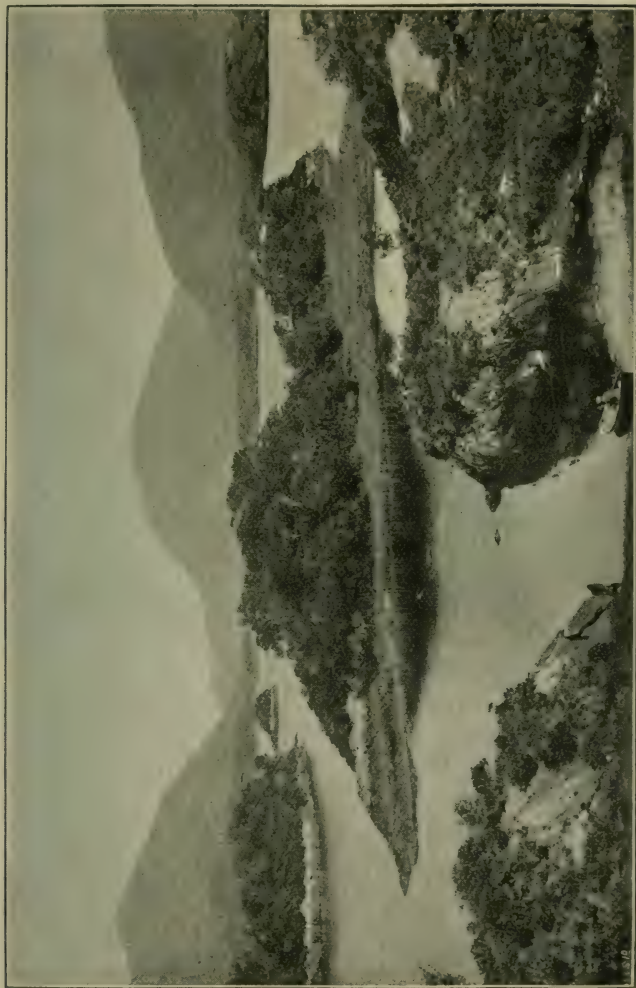
8. *Quagmire.* Soft wet land.

23. The Lakes.

1. In Scotland the lakes lie among the mountains ; in Ireland, for the most part, they lie in the hollows of the plains. Draw a line from Belfast Lough to Kenmare Bay ; that part of the country which lies to the north-west of it contains them all.

2. The Scottish lakes are usually very deep, some of them, as we have seen, so deep that their waters are never frozen. Most of the Irish lakes, on the contrary, are shallow, and overflow their banks after heavy rains.

3. Lough *Neagh* lies by itself some fifteen miles west of Belfast Lough. It is the largest in the British Isles, and covers an area of 154 square miles. It is fed by many streams from the neighbouring heights, and the river Bann carries its surplus waters into the sea.



THE ISLANDS, UPPER LAKE.

Although so large, small steamers only can cross it, owing to want of depth. It is well stocked with fish.

4. The lakes of the river *Erne* form a long chain running from the central plain to Donegal Bay. Their waters are shallow, and, after heavy rains, they form a continuous sheet of water 40 miles in length studded with islands. They abound with salmon.

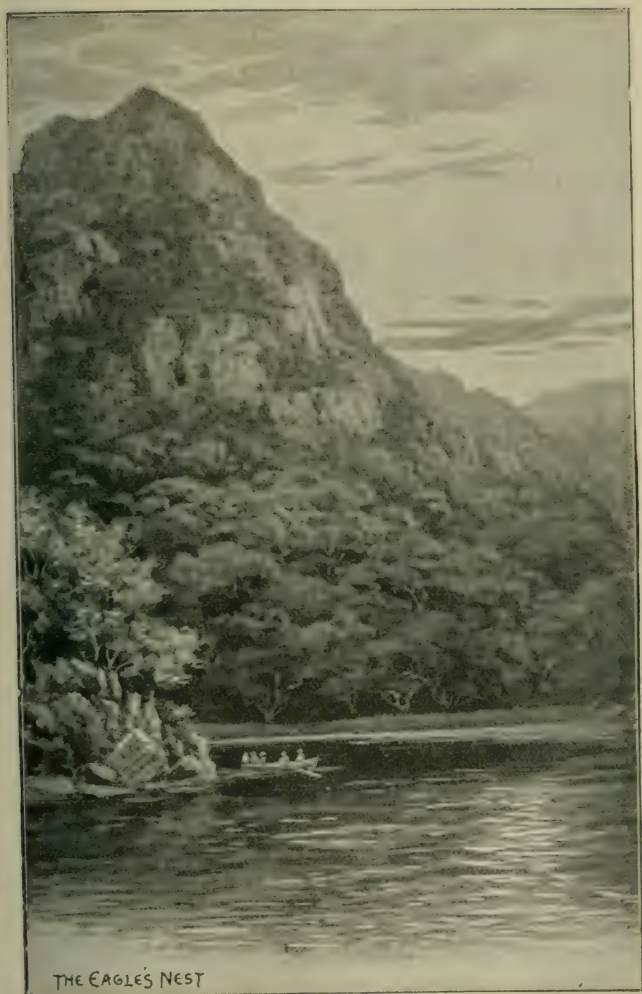
5. The lakes connected by the Shannon river, like those of the *Erne*, form a long series, which commences near Sligo Bay. The largest of the series are Loughs *Allen*, *Ree*, and *Derg*.

6. Loughs *Corrib* and *Mask* lie on the western side of the Connemara Mountains. They are not river-lakes, though they are said to be joined by an underground channel.

7. Most of the lakes of Ireland have low, flat, marshy, and dreary-looking banks; but the Lakes of Killarney surpass in beauty of scenery anything we can find in the sister island. They are three in number—the *Upper*, *Middle*, and *Lower* lakes.

8. These lakes get their supply of water from smaller ones in the surrounding mountains, and the surplus water is carried into the beautiful Bay of Dingle.

9. The upper lake is the smallest of the three. It is almost surrounded by tall and



THE EAGLE'S NEST

stern mountains, whose lower slopes are wooded down to the water's edge. Some islands, also finely wooded, add to the beauty of the scene.

10. The upper and middle lakes are connected by a rapid winding stream. About midway, on the left bank, there rises a conical hill, a thousand feet in height, called the Eagle's Nest. It is a bare crag above ; but it is covered with trees below. This mountain is noted for a famous echo.

11. The middle lake, also surrounded by wooded heights, is more sheltered. It has fewer islands than the others. Its chief feeder is the Torc Cascade, whose waters, coming from a higher lake, fall some eighty feet. In the valley, between the middle and lower lakes, is the fine ruin of the abbey of Mucross.

12. The lower is about twice the size of the other two. The largest of its many and beautiful islands are Ross and Innisfallen. Ross contains a celebrated castle built in the fourteenth century, and Innisfallen has the picturesque ruins of an old abbey. 'Sweet Innisfallen' is the most beautiful, and the most interesting of all islands in the Lakes of Killarney.

3. *Surplus.* That which is left over.

9. *Stern.* Rugged.

10. *Conical.* In the shape of a sugar-loaf.

24. The Rivers.

1. The water-parting of Ireland may be said roughly to follow the heights which surround the central plain ; so that the inner slopes of the basin form one watershed, and the outer slopes form other and smaller watersheds.

2. The Shannon is the only river of any importance in the inner watershed. Practically, by means of its many affluent streams, it gathers up and carries to the sea all the surplus water from the great plain.

3. The river has its origin in the mountains of the west of County Cavan. It flows southward ; and, as we have already noted, it fills up in its course through the valley a number of shallow basins, which form a chain of lakes connected by the river.

4. From its first lake, Lough Allen, to the sea, a distance of about 200 miles, it descends only 160 feet. Hence its course is sluggish, and the force of the water is not sufficient to enable it to cut out for itself a deep channel. Barge traffic has been made possible above Athlone only by dredging, and cutting short canals to avoid shallows and rocks. Large merchant vessels can get up as far as Limerick, and small steamers thence to Athlone.

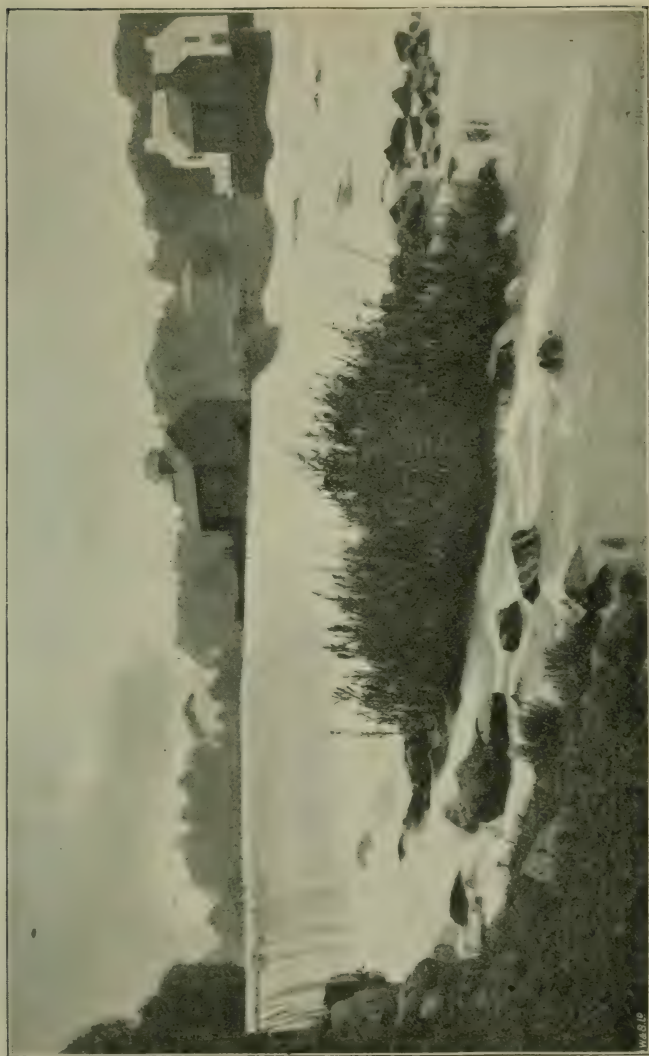
5. The river opens out into the sea by a very fine estuary sixty miles long, and from one to ten miles wide. The Shannon in many respects resembles the Severn.

6. The rivers of the outer watershed on the north are small and of little importance. The Foyle flows into Lough Foyle; and the Bann, which rises in the Mourne Mountains, flows through Lough Neagh on its way to the ocean.

7. The rivers of the east and west outer watersheds are equally unimportant. On the west, the Erne, after running through a chain of lakes, carries its water into Donegal Bay. On the east, the Boyne—famous for the battle fought on its banks between William III. and James II., and ending in the defeat of the latter—flows into Drogheda harbour. The Liffey reaches the sea between Howth Head and Kingstown. Dublin, the capital, stands on the Liffey, and Kingstown, its port, is on the estuary.

8. The rivers of the south watershed are of more importance because their estuaries form fine harbours. Starting from the east we have the Slaney and Barrow. These flow in parallel courses due south, and open out into the estuaries of Wexford Haven and Waterford Harbour.

9. The valley of the Barrow divides the Wicklow Mountains from the southern ranges,



SALMON LEAP ON THE BANN, COLERAINE.

WASIP

and takes up two important tributaries from the west--the Nore and the Suir.

10. The Blackwater, the Lee, and the Bandon, all rise among the mountains of the south-west, and flow eastward through the valleys to the sea. They form at their mouths Youghal Harbour, the splendid harbour of Cork, and Kinsale Harbour.

2. *Affluent.* Stream flowing into.

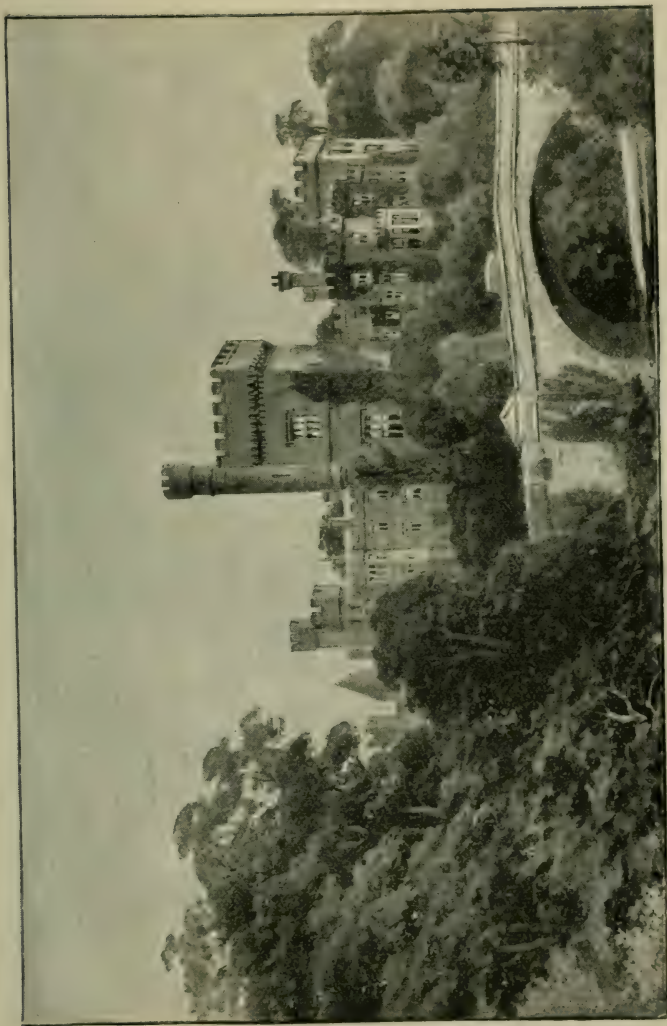
25. The Coast.

1. The character of the Irish coast-line is in some respects like that of Great Britain. There is the same contrast between the eastern and the western shore. The western consists of walls of high cliffs torn into rude and rugged forms by the fury of the ocean waves; the eastern shore is lower, and tamer, and less broken.

2. The western coast is cleft by deep bays, and loughs capable of giving shelter to the largest ships; the eastern shore, on the other hand, is marked by shallow inlets many of which are half choked by sandbanks and sunken rocks.

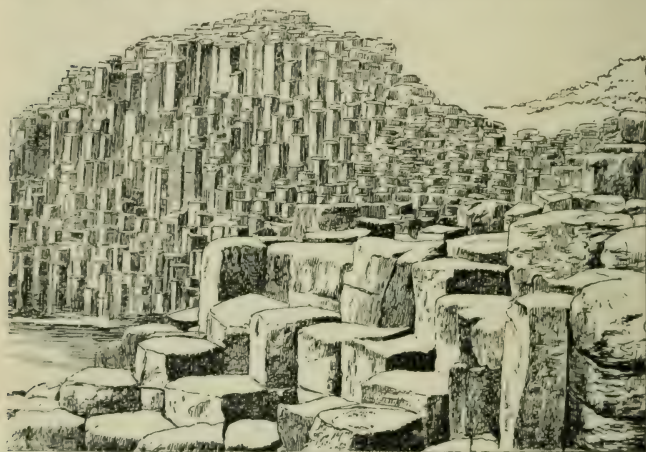
3. The western shores of Ireland are also fringed by a border of islets; but they are mostly mere barren rocks.

4. We shall now look a little more closely at



LISMORE CASTLE, ON THE BLACKWATER.

the coast as shown on the map. The northern portion is wild and rugged in character. It is cut into by two arms of the sea—Loughs Swilly and Foyle, the latter forming a good harbour.

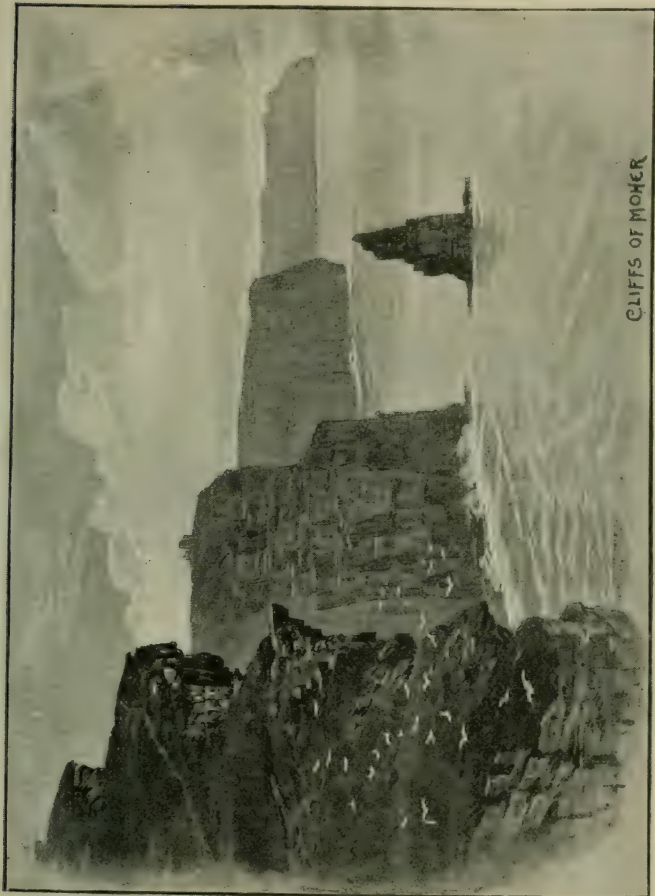


THE GIANT'S CAUSEWAY.

5. Malin Head, the extreme northern point of Ireland, lies at the extremity of the peninsula formed by the inlets just named. Fair Head is the most north-easterly point, and the coast here, and for some miles westward, is the most interesting in the island.

6. It is formed of basalt, or old lava-rocks, arranged in huge columns or pillars having from three to six sides—more often six. The pillars fit evenly and closely, and each seems to be built up of pieces neatly joined together.

7. The Giant's Causeway is composed of



CLIFFS, COAST OF CO. CLARE

many hundreds of these columns. It has the appearance of a pavement, made with giant

stones, which projects from a steep headland some hundred feet into the sea. The pillars touch one another, and the surface of the pavement looks like a solid honeycomb.



ON RANTRY BAY.

8. As in England, the west coast has three great mountain masses stretching out into the sea; these are separated by Donegal and Galway Bays. The estuary of the Shannon lies further south, and

then follow Tralee Bay, Dingle Bay, Kenmare Bay, and Bantry Bay, with long peninsulas between. Dunmore Head, at the end of the first peninsula, is the most westerly point of Ireland. The little island of Valentia, lying off the second peninsula, was the terminus of the first Atlantic cable laid to America.

9. The east coast has a long regular line of low shore, broken only by two slightly projecting mountain masses—the Mourne and the Wicklow Mountains. Dublin Bay is in the centre, Belfast Lough in the north, and Wexford Harbour in the south.

10. The two chief harbours of the south coast are Waterford and Cork. In the splendid harbour of Cork the largest ships can ride in safety. It is the only naval station in Ireland. It trades with England chiefly in cattle and dairy produce.

6. *Lava.* Rocks once molten.

8. *Terminus.* The end.

26. The Provinces. (1) Ulster and Connaught.

1. In olden times, long before it became a part of the United Kingdom, Ireland was divided into *five* kingdoms,—Ulster, Connaught, Munster, Leinster, and Meath. Meath was afterwards joined to Leinster to form one king-

dom. The names of these four kingdoms are still retained as the names of the four provinces into which Ireland is now divided.

2. Ulster occupies the north, and Munster the south-west; Connaught stretches along the western shore from Donegal Bay to Galway Bay, and reaches inland as far as the valley of the Shannon; the remainder of the country, spreading from the Shannon westward to the Irish Sea and southward to St. George's Channel, forms the province of Leinster.

3. These provinces are divided into counties, —*thirty-two* in all. We must learn their names and positions by the constant use of the map. Ulster includes *nine* counties, Connaught *five*, Munster *six*, and Leinster *twelve*.

4. The western half of Ulster is wholly pastoral and agricultural; the eastern contains the only important manufacturing district in Ireland, the staple industry of which is the manufacture of linen.

5. This industry is carried on in the counties of Antrim, Londonderry, Down, and Armagh; the most important towns are Belfast and Londonderry.

6. Belfast is the largest and most prosperous of the industrial towns in Ireland. It has many and extensive manufactures: that of linen is the chief. It does a large business also in

ship-building. Londonderry is a busy port, with shirt and collar factories.

7. Some of the valleys and small plains in Ulster are fertile and well-cultivated; but, as a whole, the agriculture is poor and scanty, and the towns are small. In some few districts we find farms and fields of flax.



HIGH STREET, BELFAST.

8. The western part of Connaught is rugged and mountainous: the eastern part extends into the central plain. This province is the least fertile in Ireland, and its farming is poor. Its chief industry is sheep-grazing. Its towns are little more than villages.

9. Galway and Sligo, on bays of the same names, are ports of some importance, with a considerable export trade in dairy produce. Galway has a splendid harbour, and exports black marble.

27. The Provinces. (2) Munster and Leinster.

1. The province of Munster includes the great district of moorlands and mountain chains occupying the south-west. Among these chains are to be found some of the most fertile valleys and plains in the country, such as the Golden Valley of Limerick and Tipperary, and the basin of the lower Shannon. The Golden Valley is said to produce the best grass for cattle to be found in the United Kingdom.

2. This province possesses some of the best harbours of the country, the chief being those of Limerick, Cork, and Waterford.

3. Limerick occupies a splendid position on the banks of the Shannon, just where it widens out into its estuary. Though the chief town of Western Ireland it is not in a very flourishing condition, and the population of late years has decreased. It has a considerable export trade in live-stock, and "it makes a little lace, grinds flour, and cures bacon."



BLARNEY CASTLE, CORK.

4. Unlike Limerick, Cork is a flourishing and prosperous city. It owes its importance to its

magnificent harbour, formed by the estuary of the Lee, on which it stands. Cork makes friezes and gingham, leather and gloves; and it exports butter, eggs, and live-stock. Queenstown, a port on the island at the mouth of the harbour, is a place of call for the "liners" plying between Liverpool and New York.

5. Waterford, at the head of the estuary of the Suir, is not a thriving city. It exports dairy produce, corn, flour, and live-stock from the counties behind it—chiefly to Bristol.

6. The plains of Cork form excellent grazing-ground for cattle; and the basin of the Suir contains some of the best wheat land in the country.

7. A great part of the province of Leinster lies in the plain, and includes great stretches of fine grazing land, broken by numerous bogs. Dublin is the best cultivated county in Ireland. There are but few towns in the province, and all, except Kilkenny, are on the coast.

8. Dublin, the chief city of the province, and the capital of the country, is a fine handsome city at the mouth of the river Liffey. Its trade is extensive, but its harbour is not suited for the largest vessels; these therefore put in at Kingstown, a port built on the end of the horn of land which encloses the bay on the south side. Brewing and distilling are the

chief industries of Dublin ; some poplin is also made.

9. Dundalk and Drogheda are fairly thriving ports in the small county of Louth. They have a brisk export trade with Liverpool and Holyhead in corn, dairy produce, and live-stock.

4. *Frieze*. A coarse kind of woollen cloth rough on one side.
Gingham. Cotton cloth, the yarn of which is dyed before being woven.

28. Climate, Productions, Industries, Railways.

1. The climate of Ireland is very similar to that of Great Britain in its temperature ; but more rain falls. It rains three out of every four days, and the moisture is pretty evenly distributed, the annual rainfall of the west being only ten inches more than that of the east ; while in the sister isle the difference is very much greater.

2. The great amount of rain is extremely favourable to the growth of grass ; but the moisture is too great, and the sunshine too little, for wheat and barley to ripen well.

3. About four-fifths of the total population of Ireland is engaged in agriculture. The chief crops are potatoes, oats, and turnips, with some wheat, barley, and flax ; and these,

together with meadow grass and clover, are grown over about one-fourth of the surface of the country. Potatoes occupy about three-quarters of a million acres, and flax about one hundred thousand acres.

4. But Ireland is essentially a grazing country, for half the surface is permanent pasture land, on which sheep and cattle are fed. The cattle are more numerous than sheep, because they thrive better in the damp climate.

5. Ireland lacks the most valuable minerals. Most of the central plain is limestone, and the mountains are granite. A little lead, silver, and copper are found in the limestone. But there are no coal-fields of value; the seams are thin, and the quantity mined is small. A little iron, too, is found, but not near enough to the coal to be of any service for smelting. .

6. Ireland therefore is not, and never has been, a manufacturing country; yet manufacturing industries are not altogether absent. In the towns of Ulster linen is manufactured in large quantities, Belfast being the centre. Woollen, silk, and cotton stuffs are produced in limited quantities, and some paper is made. Brewing and distilling are carried on to a considerable extent, especially in Dublin.

7. Fish abound in the surrounding seas, but the fishing industry has not been developed

to the extent which might be expected; and, what fishing there is, is very much in the hands of the English and Scotch. Mackerel, herrings, and cod are caught, also lobsters; but the most important and prosperous is the salmon fishery, carried on near the river mouths.

8. The Irish trade is mainly with Great Britain, and is carried on chiefly between the ports of Dublin, Belfast, and Cork on the one side, and Liverpool, Glasgow, and Bristol on the other. The exports consist of agricultural produce, especially butter, and also linen, spirits and beer. More than a million and a half of cattle, sheep, pigs, and horses are yearly sent over to England. The outward foreign trade is almost entirely confined to linen and spirits.

9. The population of Ireland is over 4,400,000, but it is very much scattered. In the whole country there are only six towns with a population of over 20,000.

10. There are fair facilities for inland traffic in Ireland by rail, river, canal, and lake. The starting point for all the chief railways is Dublin. There are four main lines, with, of course, many branch lines. See map on p. 81.

THE BRITISH EMPIRE

29. Its Growth.

1. We have so far in this book dealt only with "Lesser Britain," that is, Great Britain and Ireland, and the smaller islands which lie round about; there is, however, a "Greater Britain," which includes not only the British Isles, but many countries and islands, large and small, in all parts of the world.

2. You may have heard the saying, "The sun never sets on British dominions." This means that the parts which make up the Empire are so vast, and so widely distributed, that the sun is always shining on some portion or other. Ere the shades of evening fall upon one British colony, the light of morning is breaking upon another.

3. The British Empire has grown up from very small beginnings, till, at the present time, it embraces one-seventh of all the land surface of the globe, and finds a home for one-fifth of the entire human race.

4. We do not know how many thousands of years these little islands of ours have been inhabited. History goes back less than two thousand years, when the Romans conquered the southern part of Great Britain, and made

it a Roman *colony*. At that time the islands were inhabited by half savage people.

5. The Saxons and Danes, as you have read, followed the Romans; and, later on, came the Normans. In 1603 Scotland was joined to England, and the English and Scotch Parliaments were united in 1707. These two countries form the island of Great Britain.

6. Many years before the union of England and Scotland, Ireland had acknowledged the sovereignty of England, though in name only. It retained its own Parliament till 1801, when the country was joined to Great Britain, and the whole was called "The United Kingdom."

7. At least two hundred years before the British Isles were brought under one king and parliament, England, through the hardihood and enterprise of her sailor sons, began to take possession of other lands.

8. Newfoundland, in North America, was the first British colony. Sir Humphrey Gilbert took formal possession of the island in the name of Queen Elizabeth, in the year 1583.

9. From this time onward, the history of the British Empire has been one long continued history of expansion. By right of discovery or settlement, by conquest or treaty, or by purchase, the British Empire has become the largest in the world; so enormous is it that no other

government can claim an equal area of land, or an equal number of subjects.

10. The largest of the British possessions are Canada, Australia, and India, each of which is nearly as large as Europe. We shall now study the geography of Canada and Australia, leaving the others to a future time. These two colonies are the more interesting to us because their peoples belong almost entirely to the Anglo-Saxon race.

30. Colonies and their Uses.

1. Our Empire has been built up at the cost of many thousands of lives, and many millions of money; and we may well ask the question, "Are these territories, which we have acquired at so heavy a sacrifice, of any use to us, and to the people who live in them?"

2. We must answer "Yes." First consider the population of the British Isles, and its rapid increase. If all the people born in this country had been compelled to remain in it, famine would have resulted long ago, for neither food nor employment could have been found for all.

3. One important use then of the colonies is to provide food and employment for the people for whom there is no room at home. Many

thousands of emigrants leave our ports every year for Canada, Australia, New Zealand, or the Cape, in the hope of making an easier or better living there than they can at home. In the colonies land is cheaper; and, as a rule, work is more plentiful than in the mother country; and the people still have the advantage of living under the protection of the British flag.

4. Then, again, the success and prosperity of our colonists benefit the old country. Trade springs up; the colonists are glad to sell their produce to us, and we are glad to sell our produce to them. Their products are mostly food and raw material for manufacture, our products are chiefly manufactured goods, and the exchange benefits both sides.

5. To show the immense value of the colonial trade, we have but to mention the fact that the colonies, including India and the West Indies, with but one-fifth of the population of the globe, buy more than one-half of our exports.

6. Some of the smaller settlements, like Singapore, are useful as trading stations, to which the natives of the surrounding countries bring their produce, and exchange it for our manufactured goods. Again, other of the smaller settlements are coaling and provision stations. Our war-ships and trading vessels have to make very long voyages, and it is well, in case of need,

that they can get coal, water, and other provisions at some points on their way.

7. Then, too, we have naval and garrison stations, for the more perfect protection of the commercial highways of the world. So long as we can protect our commerce, so long are we independent of any foreign country, with which we may happen to be at war, for food supplies, and materials for manufactures, because we can get them from our colonies.

8. Last, but not least, the growth of the Empire has put down slavery, introduced civilization, and let the light of the Gospel into many of the dark places of the earth.

3 *Emigrants.* People who leave their own country to settle in another.

7 *Garrison.* A body of soldiers in a fort, or fortified town.

THE DOMINION OF CANADA.

31. General View of Canada.

1. Take your school-room map of the world, and look for British North America. You will find it in the Western Hemisphere, in the far north. It is often called Canada, or the Dominion of Canada.

2. What can we learn at the outset from a careful view of the map? In the first place, it

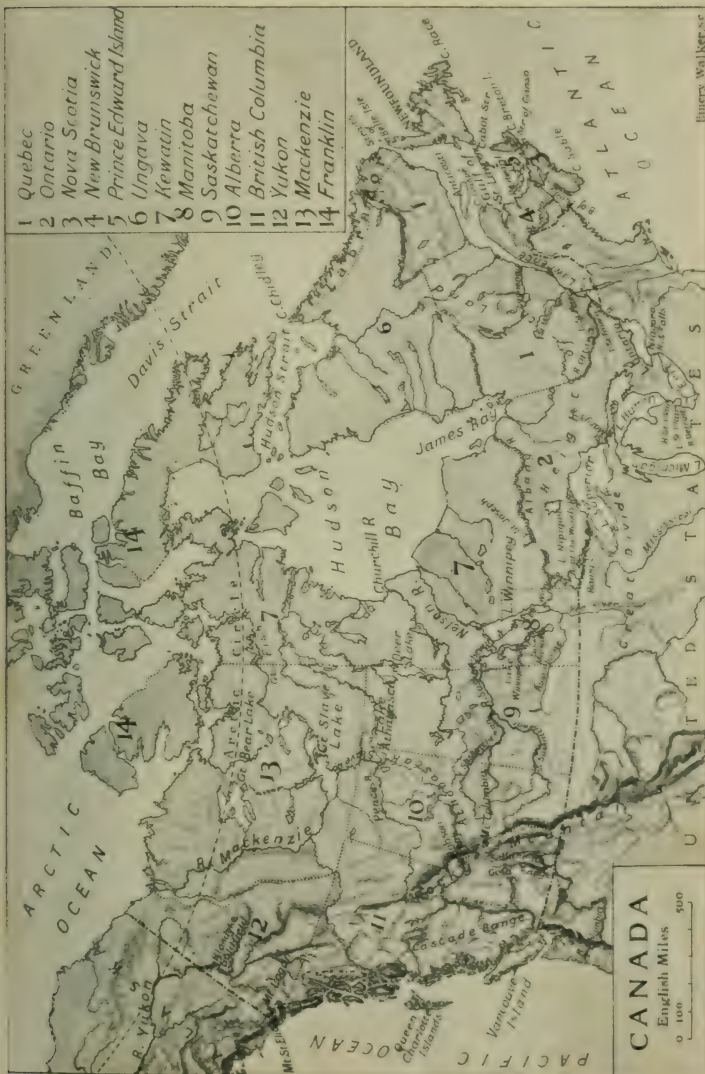
appears to cover an enormous area ; and so it does, for it is nearly as large as the whole continent of Europe.

3. Secondly, we notice that it is surrounded by the ocean on all sides except on the south, where it joins the United States ; and on the north-west, where the peninsula of Alaska joins it. The Atlantic Ocean lies on the east side, the Arctic on the north, and the Pacific on the west.

4. Thirdly, the coast line is everywhere cut into by arms of the sea, some of the inlets being very large. Hudson Bay is a large inland sea almost in the very centre of the country, having an area nearly three times as large as the whole of the British Isles.

5. Fourthly, we note that the only really mountainous part lies in the west. This district is seen to consist of several mountain chains running side by side from north to south.

6. But perhaps the most striking physical feature is the extensive water system. The rivers and lakes are very numerous, and most of them very large. From the Arctic Ocean in the north-west, a mighty chain of rivers and lakes sweeps round through the centre of the country to the Gulf of St. Lawrence in the south-east—a distance of between three and four thousand miles.



7. Lastly, we see that a large slice of the country lies within the Arctic circle, and we may infer that, owing to the intense cold, the northern part of this vast country is of little value for agriculture, or indeed for industries of any kind.

8. Two noteworthy features which we cannot see on the map are its fertile prairies, and its immense forests. "Canada is a land of lofty mountains, and vast plains; of noble rivers and great lakes; of rolling prairies and extensive forests; of smiling cornfields and dreary wastes."

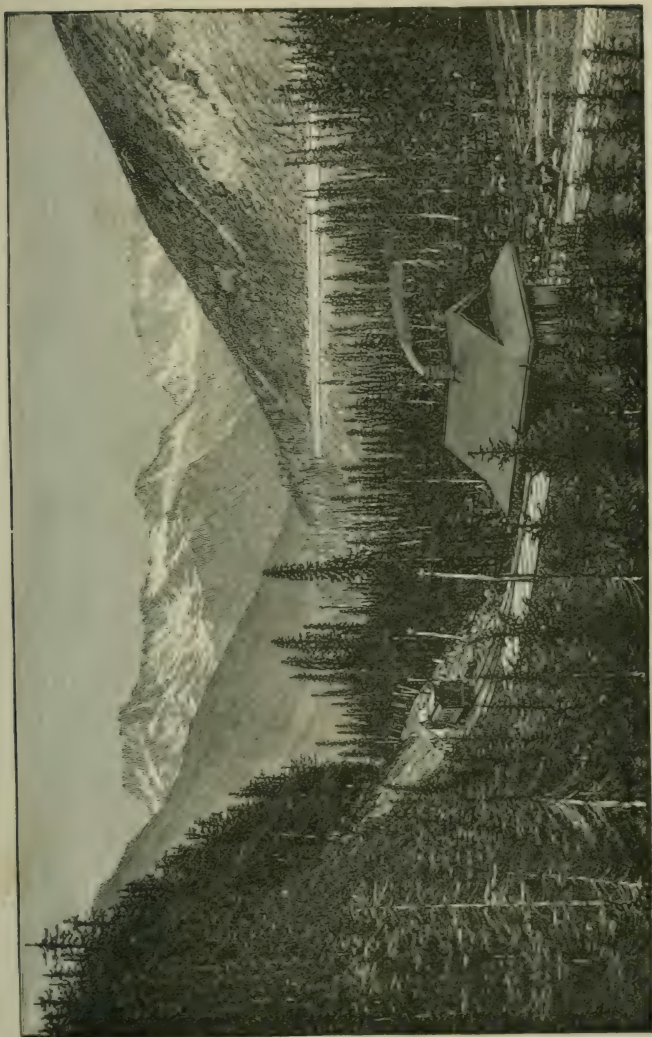
7. *Arctic circle.* The imaginary line which divides the Temperate from the Arctic or Polar regions.

8. *Prairie.* Meadow; a large tract of land mostly level, or undulating, without trees, except in the river valleys, and covered with tall coarse grass.

32. Mountains and Plains.

1. The Dominion of Canada may roughly be said to consist of *four* immense districts: the Highland belt of the west, the Wooded region of the east, the Prairie grounds in the centre, and the Barren ground in the north.

2. We must not imagine, however, that these districts are clearly defined. For instance, there are vast forests in the Highland belt, and



VIEW IN THE SELKIRK RANGE, BRITISH COLUMBIA, WHERE CROSSED BY THE CANADIAN-PACIFIC RAILWAY.

extensive tracts of arable and pasture land in the Wooded region. The names point only to the chief characteristic of each.

3. The Highland belt is the northern portion of the great system of mountain chains and high table-lands, which belongs to the whole of the North American continent. The Rocky Mountains form the eastern boundary, and the Cascade ranges near the coast, the western. Between these boundaries stretches a plateau,—some 3,000 feet above the sea-level, and from three to four hundred miles wide,—broken by other chains, which all run in the same general direction as the border ranges. The Cascade ranges are so-called from the cascades, or waterfalls, which abound on their slopes.

4. The great plateau is much diversified—barren rocky ridges, and narrow ravines; deep gorges, and fertile valleys; dense forests, and vast pasture lands, interspersed with numerous lakes and rapid streams, combine to give variety to this enormous mountain region.

5. Between the ‘Rockies’ and the chain of rivers and lakes, lies the great plain rising into a low table-land near its eastern boundary. The southern portion of this plain constitutes the prairie country. The northern part between the prairies and the ‘barren ground of the north’ is sparsely wooded, the trees becom-

ing more and more stunted as we approach the inhospitable north.

6. Eastward, from Lake Winnipeg to the Atlantic, is the great woodland district. Here, though thousands of acres have been cleared, making way for fertile farms, enormous forests still occupy the greater part of the country.

7. The only mountains of the Woodland region is a low range which runs from Lake Superior to Labrador. It forms the water-parting between the Hudson Bay and the St. Lawrence basins.

8. The Barren ground lies to the north. It begins on the west as a narrow strip, stretching along the ice-bound coast; but soon broadens out to cover all that enormous peninsula, which is bounded by the Arctic Ocean and Hudson Bay. It embraces also a large stretch of land in the north of Labrador.

9. Much of the Barren ground has never been explored. A few stunted shrubs, and a little moss and lichen, represent the vegetation so far as it is known. There is no protection from the icy winds, which in winter sweep across them; and it is unfit for habitation. Even the reindeer seek the shelter of the woods. A few Eskimos live in Labrador, and in sheltered valleys near the coast.

4. *Diversified.* Varied.

5. *Constitutes.* Makes up, forms.

33. Rivers and Lakes.

1. The water-ways of Canada are not inferior in number and value to those of any other country in the world. A glance at the map shows that innumerable rivers flow through the land in every direction; and that lakes of all sizes plentifully bestrew its surface. The chief lakes are so intimately connected with the chief rivers, that the two are best considered together.

2. Most of the rivers and lakes draw their waters from the Highland district on the west, and carry them to the three surrounding oceans. That is, there are three great river slopes—one to the Pacific, one to the Arctic, and the other to the Atlantic.

3. The Pacific slope is short and steep, and consequently its rivers are rushing torrents, broken by rapids and waterfalls. The only important river of this slope is the Fraser.

4. The chief river of the Arctic slope is the Mackenzie. From its source in the 'Rockies' to Lake Athabasca, it is called the River Athabasca; thence, to the Great Slave Lake, it is known as the Slave River; and, as it issues from the Great Slave Lake, it takes the name of the Mackenzie River.

5. The total length of this system of lakes and rivers is nearly ten times that of the Thames,

and the surface drained is about twelve times the area of England.

6. The Mackenzie River proper, although very large, is not of any great importance; firstly, because in its lower reaches it is frozen over for about nine months of the year; and secondly, because it flows for the most part through a dreary and desolate waste. The basin of the Athabasca is an immense fertile region.

7. The two chief rivers of the Atlantic slopes are the Nelson, and the St. Lawrence. The former enters Hudson Bay, and the latter the Gulf of St. Lawrence.

8. Lake Winnipeg is an inland sea nearly 300 miles long, and 60 miles broad in the widest part. It is fed by a magnificent system of rivers and smaller lakes. There is the Saskatchewan, a river five times as long as the Thames, the Red River, the Winnipeg, and scores of smaller streams. And the outlet for the enormous volume of surplus water is the Nelson River.

1. *Bestrew.* To scatter over.

34. The St. Lawrence and the Great Lakes.

1. The St. Lawrence is the largest and most important river in the Dominion. It forms a great water-way into the very heart of the

country, and is one of the great commercial rivers of the world.

2. The Nelson River, as we have seen, is the outlet for *one* great lake; the St. Lawrence is the outlet for *five* great lakes. These together have an area of 95,000 square miles—nearly double that of England; and they form the largest and most wonderful series of fresh-water lakes anywhere to be found.

3. The great river and lake system of the St. Lawrence may be said to begin on the spacious table-land which sends the Mississippi on its way towards the Gulf of Mexico, the Red River of the north on to Lake Winnipeg, and the St. Louis River on to Lake Superior. From the point where the St. Louis joins the lake we can travel by water to the Atlantic Ocean, a distance of 2,000 miles.

4. Superior is the largest fresh-water lake in the world. It has an area nearly as large as that of Ireland. Although its surface is 600 feet *above* the sea-level, its bed, at its lowest part, is 400 feet *below* the sea-level. It is subject, like its sister lakes, to violent storms.

5. St. Mary's River takes the overflow waters from Lake Superior into the next lake, which is called Huron. Michigan is joined to Huron by a narrow strait, so that the two practically

form one. Huron is a little larger than Michigan, and about two-thirds the area of Superior. Its waters are very clear and pure, and abound in fish. Michigan lies entirely in the United States.

6. Midway in the channel between Huron and Erie there is a small lake called St. Clair. The River St. Clair connects it with Huron on the one side; and the Detroit joins it to Erie on the other. Erie is the shallowest of the five lakes, and is more or less frozen over every winter. Its area is considerably larger than that of Wales.

7. Ontario, the last of the great lakes, is connected with Erie by the River Niagara. Though the smallest, it is the most important for commercial purposes. It has many thriving towns on its banks, the chief of which are Toronto and Hamilton.

8. We have learned that the surface of Lake Superior is about 600 feet above the level of the sea. Ontario is but 250 feet above the sea level. Hence from Superior to Ontario the waters have to descend some 350 feet. The fall between Superior and Huron is but 20 feet, and that between Huron and Erie about 8 feet. It follows therefore that the fall between Erie and Ontario must be a little over 320 feet. This gives rise to the

Falls of Niagara, the most wonderful Falls in the world.

9. For shipping purposes Lakes Erie and Ontario are connected by the Welland Canal.

35. The Niagara River and Falls.

1. After its exit from Lake Erie, the Niagara flows quietly on for a distance of about 20 miles, with a fall of only about 15 feet. But, as it nears the celebrated Falls, it descends in the half-mile or so of rapids quite 50 feet.

2. Goat Island occupies the centre of the river immediately above the Falls, and divides the cataract into two—the Horseshoe Fall on the Canadian side, and the American Fall on the opposite.

3. The Horseshoe measures half a mile; the length of the American Fall is less than a fifth of a mile. In the former the water falls 158 feet, in the latter 162 feet.

4. It is almost impossible for us to form any idea of the volume and weight of the enormous body of water which tumbles over this immense chasm every minute. It is estimated at no less than 400,000 tons.

5. ~ And this flow of water is unceasing. No eye can perceive a difference in the weight, or



NIAGARA.

sound, or violence of the Fall, whether it be visited in the drought of autumn, amidst the storms of winter, or after the melting of the ice of the lakes in the days of early summer."

6. But, when we consider that the lakes and rivers from which these waters come contain nearly one-half of all the fresh water on the surface of the earth, we may form some notion of the grandeur of these mighty Falls, which are indeed, as their Indian name implies, "The Thunder of Waters."

7. If you are visiting the river, go to the beginning of the rapids and follow the stream down hill. At first the current has a swift, steady flow. Further along it is broken—"a dashing, plunging race of mad horses, with tossing white manes."

8. Faster and faster it madly rushes, till at length the huge mass of green water tumbles headlong into the abyss below. The rocks vibrate under the mighty fall. The sound of the cataract, loud as thunder, fills the air for miles around. The spray, as a mist, rises high in the air, and is gathered there, visible always as a white cloud, which, with the sun's rays, produces the most beautiful rainbows. The bulk of the spray, which fills the hollow of the Horseshoe, is like a tumult of snow.

9. On Goat Island, close to the Falls, there is

a shaft by which we may descend to the level of the river below, and pass between the rock and the torrent. The visitor descends this shaft, and finds himself on a broad safe path, made of shingles, between the rushing water and the rocks over which it falls. This is the "Cave of the Winds."

10. As he looks on, strange colours will show themselves through the mist; the shades of grey will change to green or blue, with ever and anon a flash of white; and then some gust of wind blows in with greater violence, and the water-girt cavern will become all black and dark.

11. For some distance below the Falls the river is quiet, the water which comes over the precipice flows underneath and only rises to the surface two miles below. Then follow rapids on rapids, until the waters have descended another 100 feet.

12. For seven miles below the rapids the river is shut in between walls of rock from two to three hundred feet high.

1. *Celebrated.* Noted, famous.

6. *Implies.* Means, signifies.

36. The St. Lawrence and its Gulf.

1. The channel by which the waters leave Lake Ontario is broad, and studded with many tree-covered islands. This expanse is called the "Lake of the Thousand Isles."

2. Lower down in its course the river broadens out into the Lakes of St. Francis and St. Joseph. The former is near Montreal, and surrounds the island on which the city is built; the latter lies between Montreal and Quebec. There are rapids a little above Montreal, where the water rushes swiftly along between high banks, and among a number of small islands. A canal has been cut so that ships may avoid these.

3. From the Lake Ontario to that of St. Francis the river forms the boundary between Canada and the States. Below, it becomes entirely a Canadian river.

4. The chief tributary of the St. Lawrence is the Ottawa, one of the largest rivers of the Dominion. It is fed by many important streams, which form the means of transit for perhaps the largest timber trade in the world. Ottawa, the capital of the Dominion, is built on the banks of this splendid river, 120 miles from its influx into the St. Lawrence.

5. From Montreal, the largest city of the

Dominion, to the sea, the river has been made suitable for the navigation of ocean steamers in the summer. In the winter it is frozen and ice-bound.

6. Below Lake St. Peter the river is joined by the St. Maurice, another important river for the lumber trade. Eighty miles lower down, Quebec is built on a high promontory more than 300 feet above the water, on its left bank.

7. At Quebec the river is about two miles wide, and from this point it gradually broadens out into a magnificent estuary, until it joins the gulf 300 miles below. At its mouth it measures 90 miles across.

8. The Gulf of St. Lawrence is really a great inland sea. It has three communications with the ocean, the largest being Cabot Strait between Newfoundland and Cape Breton Island.

9. The gulf is somewhat dangerous to navigate, because of its many islands, its dense fogs, and its uncertain currents. Both river and gulf teem with fish.

Lumber. Timber in logs, or planks.

37. The Coast.

1. Like the west coast of Scotland the west coast of Canada is very rugged, and much

cut into by arms of the sea ; and like that of Scotland, too, the coast is protected from the fury of the ocean waves by chains of islands.



INDIAN WOMAN, BRITISH COLUMBIA.

2. The chief of the islands are the Queen Charlotte's Islands, and Vancouver Island. The former are peopled principally by Indians. The latter, which is about twice the size of Wales,

is finely wooded, and has many good harbours. The island is rich in coal and other minerals. Its climate is much like that of England.

3. The east coast is broken up in all directions by deep bays, in which there are some fine harbours. The Bay of Fundy, between New Brunswick and Nova Scotia, is noted for its tides—sometimes 50 feet high—which rush up at a tremendous pace.

4. The coast of Nova Scotia has many inlets. The harbour of Halifax is one of the finest in the world. To the north of Nova Scotia is Cape Breton Island, so called because it was discovered by sailors from Bretagne in France.

5. North again from Cape Breton Island, and separated from it by Cabot Strait, is Newfoundland. These two islands shelter the Gulf of St. Lawrence from the Atlantic, and make it practically an inland sea.

6. There are many islands in the gulf, but the only important one is Prince Edward Island. That of Anticosti, at the mouth of the estuary, is very dangerous to navigation because of its shoals and want of harbours.

7. The Straits of Belle Isle separate Newfoundland from bleak and desolate Labrador. Skirting this coast, dangerous from its reefs and icebergs, fogs and tempests, we arrive at Hudson Strait; and, if the time be July, August,

or September, we shall be able to sail into Hudson Bay.

8. If we want to get to the north coast we must sail on through Davis Strait and Baffin Bay. But here the shores are ice-bound through the great part of the year, with ice two or three hundred feet thick. Ice-fields and icebergs of all sizes cover the sea, and the cold is intense.

9. Many lives have been lost in the icy region reached from Baffin Bay. For years men have been seeking to discover the North Pole, and to find a sea route to Asia along the north coast of America. Ocean routes have been found, but they are useless for commercial purposes, because one is never certain of finding them clear of ice even in the most favourable seasons. The North Pole has yet to be reached.

38. History.

1. The honour of having discovered the New World belongs to Italian sailors, and the greater honour to Christopher Columbus, who led the van. The first voyage was made in 1494, a little more than 400 years ago.

2. Rapidly following on its discovery the leading European nations laid claim to various

parts, till, in less than 200 years, the greater portion of the North American continent was parcelled out between France, Spain, and England.

3. The French were the first European settlers, but the English were not far behind. In 1583 Sir Humphrey Gilbert took formal possession of Newfoundland in the name of Queen Elizabeth ; and in the following year Sir Walter Raleigh laid claim to a slice of land on the Atlantic coast, and named it " Virginia," after his patron and queen. It was not, however, till 13 years later that a number of English people settled at Jamestown, on the James River, and thus formed the first English colony on the continent of North America.

4. At the end of the 17th century England possessed nine colonies on the Atlantic seaboard. France claimed all the vast basin of the Mississippi from the Gulf of Mexico to the Great Lakes, together with nearly all the basin of the St. Lawrence from the Gulf to Lake Winnipeg. California, Mexico, and Florida belonged to Spain. In 1713 Nova Scotia was ceded by France to Britain.

5. Disputes arose about boundaries between the English and French colonies, and the mother countries not only took part in the conflict here, but extended it to other parts of the world.

The war commenced in 1756, and was called the "Seven Years' War."

6. In 1759 General Wolfe sailed up the St. Lawrence with a strong army, and, after a memorable battle on the Heights of Abraham in which he was killed, Quebec, the capital of the French colony, was captured. In the following year Montreal was taken.

7. In 1763, at the Treaty of Paris, all the immense colony of Canada, together with its dependencies, was ceded to England.

8. Thirteen years later thirteen of the southern colonies, objecting to be taxed by the mother country, threw off the English yoke, and, assisted by the French, after a six years' war, won their independence. Canada, however, and Nova Scotia remained loyal to the old country. In 1784 New Brunswick was taken from Nova Scotia and made into a separate colony. In 1849 Vancouver Island was made a crown colony, and British Columbia, on the discovery of gold in 1858. These two colonies were united in 1866.

9. In 1867 Upper and Lower Canada—henceforth to be called Ontario and Quebec—Nova Scotia and New Brunswick were federated, under the title of the "Dominion of Canada." That is, while each managed its own local affairs, the provinces, as they were now called, were united for certain general purposes.

10. In 1869 the vast hunting grounds of the Hudson Bay Company were purchased by the Dominion through the British Government, and, under the new name of the "North-West Territory," became a province of the Dominion. In the following year the southern part was made into a separate province, and called Manitoba. British Columbia joined the Union in 1871, and Prince Edward Island in 1873.

11. Other portions of the North-West Territory were afterwards formed into the following provinces: Alberta, Saskatchewan, Keewatin, Yukon, Mackenzie, Ungava, and Franklin.

12. At the present time all the British territory in North America is united in the Dominion except Newfoundland, and its Dependency on the shore of Labrador.

2. *Parcelled.* Divided into portions.

3. *Patron.* One who supports and protects.

4. *Ceded.* Given over to.

39. Ontario and Quebec.

1. Ontario is the most populous, and the most wealthy province of the Dominion. Its area is more than three times that of England and Wales, and it supports more than half the total population of Canada. Its surface is undulating, and it contains no hills of any great height.

The Ottawa, with its tributaries, is the main river system of the province.

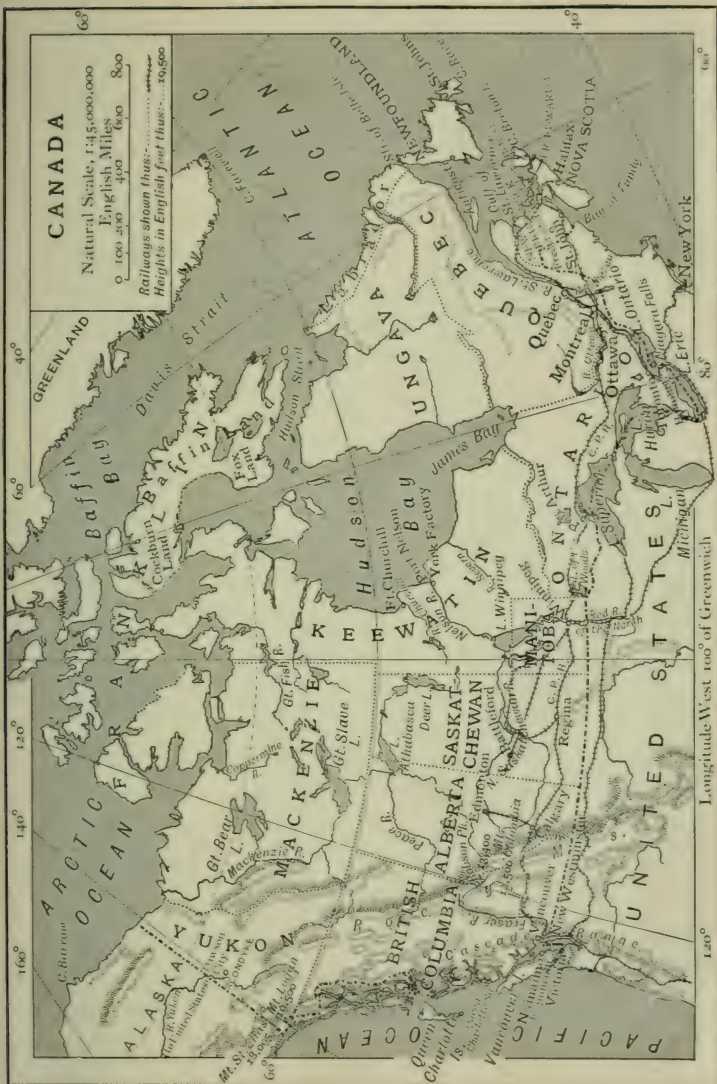
2. It boasts of four towns, each with a population exceeding 30,000. The chief in importance are Toronto, Ottawa, and Hamilton.

3. Toronto, on the northern shore of Lake Ontario, is the capital of the province, and second among the cities of Canada. It has a large export and import trade, and its lake commerce in lumber, grain, fruit, coal, and cattle is also extensive.

4. Ottawa is situated on the south bank of the Ottawa River, 120 miles above its confluence with the St. Lawrence. It is the capital of the Dominion, and the centre of the immense lumber trade. Hamilton, at the west end of Lake Ontario, has extensive manufactures in iron, cotton, and woollen goods.

5. Quebec, the oldest province of the Dominion, stretches along both sides of the River St. Lawrence. Its surface is very varied. Two broken ranges of mountains run through it from south-west to north-east, one on each side of the river, and parallel to it.

6. Between the hills and the river, there are lakes and streams innumerable, immense forests, and great stretches of agricultural land. The two chief rivers—besides the Ottawa, which runs between Ontario and Quebec—are the St.

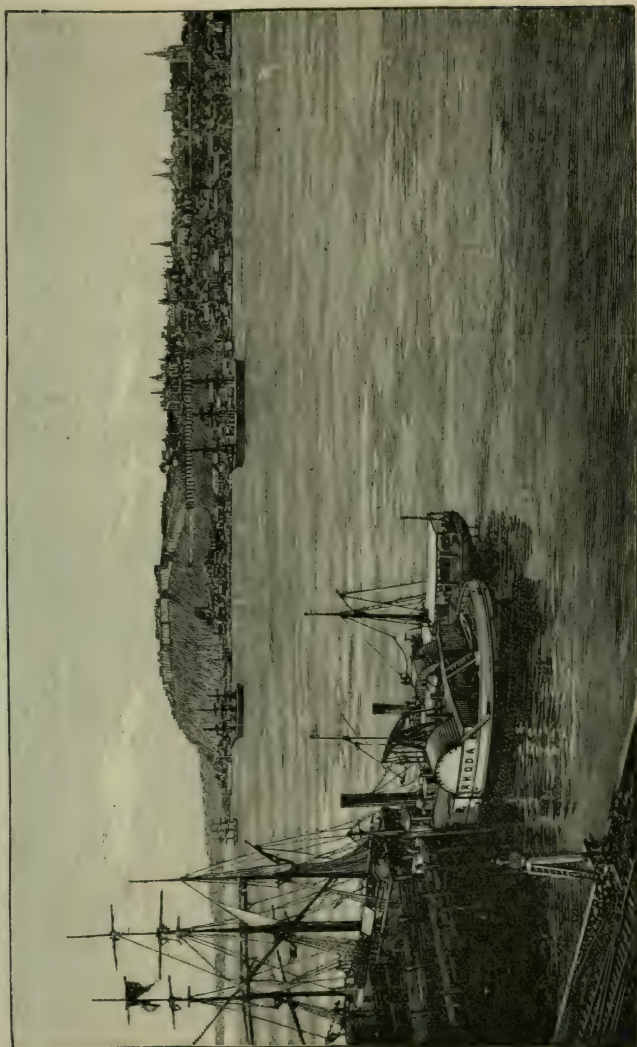


Maurice and the Saguenay. A large portion of the province is as yet unoccupied, nearly all the settlements being close to the river, and westward rather than eastward.

7. The chief towns are Quebec, Montreal, and Three Rivers. Quebec, the capital of the province, and the oldest city in Canada, is a quaint old place, built upon and around the rocky "Heights of Abraham." "To travellers from Europe, Quebec will always have the greatest interest." It has historic memories which few of the other Canadian towns possess, and the man must be deficient in sentiment who can visit the Heights of Abraham, or walk under the shadow of its battlements, without thoughts that take him far back to the days when the Briton and the Frenchman fought here for the mastery of the New World. Quebec is an important port; its chief industry lies in the timber trade.

8. Montreal is the commercial capital and the largest and most prosperous city in the Dominion. It has a population of 267,000. The place owes its importance very much to its position just at the point where ocean navigation ends, and river and canal traffic begins. Montreal is also the centre of the great railways.

9. The city has extensive manufactures in boots and shoes, clothing, tobacco, and an army



QUEBEC.

of men is employed in the railway workshops. Its chief exports are corn, flour, and timber.

10. Three Rivers is built at the confluence of the St. Maurice and St. Lawrence rivers. It has a considerable lumber trade, and manufactures boots and shoes.

11. The island of Anticosti, at the mouth of the St. Lawrence estuary, is a part of the province of Quebec.

7. *Historic memories.* Things remembered in the history of the country.

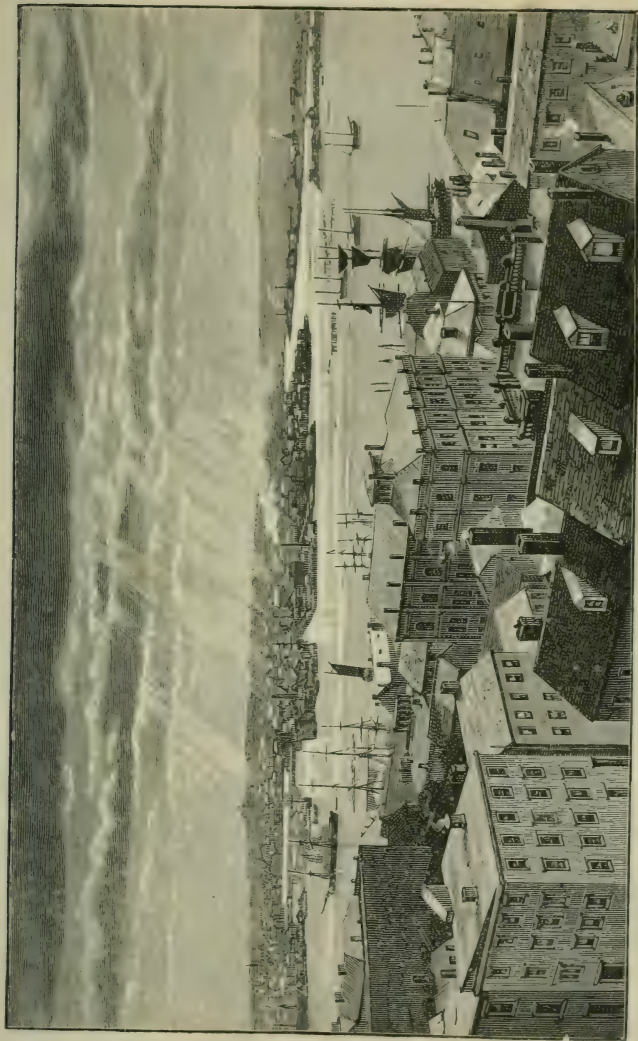
Deficient in sentiment. Wanting in feeling.

40. The Maritime Provinces.

1. Nova Scotia, or New Scotland, consists of a long narrow peninsula joined to New Brunswick by an isthmus, and the Isle of Cape Breton separated by the Strait of Canso. This province has many short rivers, and several large lakes.

2. Halifax, the capital, is a port with a magnificent harbour—a harbour open at all seasons of the year, and at all tides to ships of all sizes; and it is large enough to shelter the whole British navy at once.

3. Being the chief British naval station in this part of the world, and the only place in the Dominion where imperial troops reside, the place



ST. JOHN, NEW BRUNSWICK.

is strongly fortified. Of late years the city has developed into a great commercial port.

4. In winter, when the St. Lawrence is blocked with ice, Halifax becomes the chief port of the Dominion; and goods and passengers are conveyed hence by rail to Montreal, and other cities westward. The estimated population is 41,000.

5. New Brunswick is a square tract of country nearly as large as Scotland, with a slightly undulating surface. It has some harbours of great value in the export of lumber, for which the province is famous. The principal river is that of St. John, on which the chief towns, St. John and Fredericton, are situated.

6. St. John, the largest city, and the commercial capital of New Brunswick, is built on the north side of the estuary of the St. John river. The harbour is excellent, and open throughout the year. The main industries of the town are shipbuilding, fishing, and the lumber trade.

7. Prince Edward Island lies in the south of the Gulf of St. Lawrence. It has some good harbours; but they are available only in summer. The capital is Charlotte Town, on an estuary of the south coast.

3. *Imperial.* Belonging to the Empire

Fortified. Protected by forts.

41. Manitoba and the New Provinces.

1. Manitoba, the Prairie Province, is for the most part a level tract of country varied by gently swelling undulations. The area exceeds that of England by about one-half; but one-seventh is occupied by lakes, the two chief being Winnipeg and Manitoba. The Province is almost entirely agricultural.

2. Winnipeg, standing at the confluence of the Assiniboine and Red Rivers, is the seat of government. Twenty years ago it was but a collection of huts sheltering some 300 people. Now it is a busy thriving town of 55,000 inhabitants and rapidly growing larger. It has a large carrying trade both by river and rail; and is the half-way house on the Canadian Pacific Railway.

3. Saskatchewan is a province with an area nearly equal to that of five Englands. Like Manitoba it is an agricultural district. The eastern part is specially adapted for wheat growing; and the western for the raising of cattle and sheep. Many little towns have sprung up near the Canadian Pacific Railway, which runs through it. Regina, the capital, has but 3,000 inhabitants.

4. A magnificent river, the Saskatchewan, runs

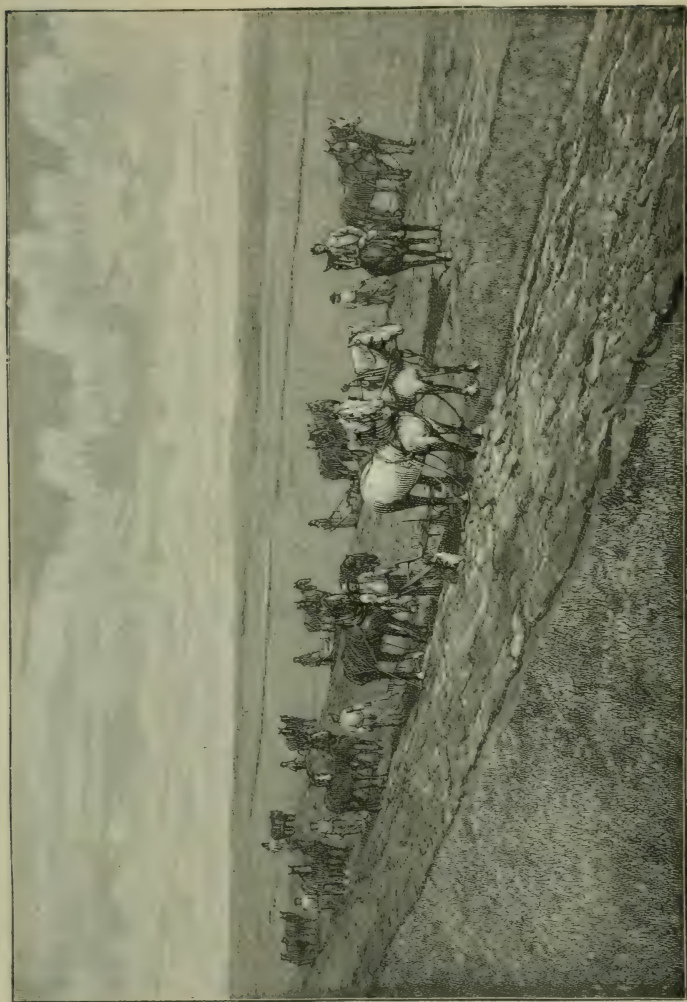
through the territory from west to east, and flows into Lake Winnipeg. This river forms the great water-way for trade. The province is too remote from the railway for rapid settlement, and there are probably not more than 250,000 inhabitants in the whole district.

5. Alberta lies between Saskatchewan on the east, and the Rocky Mountains on the west. It has an area about equal to that of Assiniboia. Numerous streams traverse it from the mountains to the Athabasca and Saskatchewan Rivers. In the southern part of this province we find the great cattle ranches of Canada.

6. The scenery of this district near the Rocky Mountains is beautiful in the extreme. The northern part is well wooded, and is still the home of many fur-bearing animals. Calgary is the chief town, and the trading centre for the province. Like Winnipeg, before the railway was constructed, it consisted of a few huts. Now it is advancing with rapid strides.

7. The northern portion of Alberta, however, lies too far north for immediate settlement. At present it is given over to the trapper. The population is so sparse that there is one person only to every square mile.

8. Keewatin lies to the west of Hudson Bay; and stretches northward from Manitoba to the extreme limit of the Dominion. Its area is



PLOUGHING IN THE PRAIRIE, MANITOBA.

over 470,000 sq. miles, but very little is known of it. . It exports furs.

9. The remaining provinces are Yukon, Mackenzie, and Franklin in the north-west, and Ungava in the north-east. The Mackenzie is the great river, and Athabasca, Great Bear, and Great Slave are the lakes. The exports petroleum and furs. Ungava is a vast, but almost unknown region, on the east of Hudson Bay, and stretches eastward to the Newfoundland Dependency.

4. *Remote.* Distant.

7. *Trapper.* One who catches the fur-bearing animals in traps or otherwise.

42. British Columbia.

1. We have already described the broad belt of high land consisting of parallel chains of hills, high table-lands, and river valleys lying between the Rocky Mountains on the east, and the Cascade range on the west. The province of British Columbia includes nearly all this region together with a considerable stretch of flat land in the north-east which is but little known.

2. The "Rockies" form the eastern boundary for a distance of between 300 and 400 miles. The highest peaks in this chain rise far above



CANON ON THE FRASER RIVER, BRITISH COLUMBIA

the snow-line, and glaciers fill their upper valleys. Mounts Brown and Hooker are about 16,000 feet high. The province is well watered by streams rising in the mountains, and flowing into the Pacific.

3. The only important river is the Fraser, noted for its salmon. It runs a course more than three times as long as the Thames, and at its mouth measures 600 yards across.

4. The coast is broken into by deep lochs with steep rocky sides, like those of the north-west coast of Scotland.

5. Vancouver Island, and the Queen Charlotte Islands, form part of British Columbia. Vancouver Island has an area equal to twice that of Wales, and is the largest island on the west coast of America. It is mountainous and densely wooded; its shores are wild and rocky, and its streams mere winter torrents.

6. Victoria, pleasantly situated on the south-east of Vancouver Island, is the capital, and the most important city of the province. Coal is found in plenty a little north of Victoria, and largely exported to China.

7. The town of Vancouver, at the mouth of the Fraser River, has greatly increased in wealth and importance since the opening of the Canadian Pacific Railway, of which it is the western terminus. A fleet of fine ocean steamers



VICTORIA, VANCOUVER ISLAND.

now runs regularly from Vancouver to China, Japan, and Australia.

8. The province of Columbia has an area three times as large as that of the United Kingdom; but only about one part in five hundred of the land is yet occupied, and its total population is half that of the city of Montreal. More than half of this population is collected around the mouth of the Fraser River, and across the gulf in the south of Vancouver Island.

43. Climate.

1. The Dominion of Canada comprises such a great extent of territory that we naturally expect to find many varieties of climate. Generally it may be said of the more settled districts that the climate is extreme; in other words, the summers are extremely hot, and the winters extremely cold. In the Prairie districts, the summers are hotter, and the winters colder, than in the Wooded regions. The districts bordering the Pacific and Atlantic Oceans are moister, and less extreme, than the inland regions; and all the seasons are drier than those of our own country.

2. Winter, in Canada, seems to be the brightest

season of the year. Though the cold is intense, it is less felt than in England, owing to the extreme dryness of the air. There is an entire absence of the damp and chilly atmosphere, which makes our winters often very depressing. The weather is clear and bright, and sunshine is the rule rather than the exception.

3. Farming and fishing, and almost all other outdoor occupations are suspended from November till April. Snow falls at the beginning of winter to a depth of from two to four feet, effacing the unevenness of the ground; and making, with the frozen lakes and rivers, the most perfect system of roads. Now is the time for enjoyment. Sleighs and skates and snow-shoes are brought from their summer hiding-places, and sleighing, skating snow-shoeing, and tobogganing are the pleasures of the hour. The nights too are beautifully clear, and many are the excursions taken in the bright moonlight over the crisp frozen snow.

4. "Although the farmers are driven from their fields by the frost and snow, yet even the intense cold has its advantages. They can fatten their cattle in summer, and, by killing them when the cold season sets in, keep them frozen, to be disposed of at pleasure during the winter. Even milk is kept in this way, and the white frozen mass is sold by the pound."

5. The spring, in most parts, is much shorter than ours; and the melting of the snows and the thawing of the ground render it, perhaps, for a time, the least enjoyable season of the year. This state of things, however, does not last long; for, with the warmth and moisture, the trees put forth their leaves, and the plants spring up as if by magic. In three or four weeks the winter is forgotten.

6. Summer commences with the month of May, and the temperature then is about that of southern Italy. "Bright cloudless days succeed one another for weeks together, and but little rain falls." The months of July and August are especially hot, so hot that sometimes grass cut down in the morning has become hay, ready to be stacked, by the evening. "The nights, however, are cooler, and the early morning breezes are fresh and bracing."

7. A very enjoyable part of the year is what is known as the "Indian summer," viz., October and parts of September and November. This is the season of cloudless skies, soft breezes, and bright sunshine; and it is the season, too, when the trees, especially the maples, put on their splendid autumn tints.

8. "It would seem as though autumn had collected together all the past glories of the year, adding them to her own; she borrows

the gay colours that have been lying during the summer months among the flowers, in the fruits, upon the plumage of the bird, on the wings of the butterfly, and working them together in broad and glowing masses she throws them over the forest to grace her triumph."

9. Nova Scotia, and the shores of New Brunswick around the Bay of Fundy, have a milder, and moister, and more even climate than that of the interior; but, with the exception of Prince Edward Island, the eastern maritime provinces are subject to dense fogs, which sometimes last for weeks together.

10. British Columbia has a climate more like our own, than that of any other part of the Dominion. As the south-west winds from the Atlantic Ocean bring warmth and moisture to the British Isles, so the south-west winds from the Pacific carry warmth and moisture to this mountainous region of the west.

11. There is a mild region, too, at the foot of the "Rockies" in the district of Alberta. Warm winds keep the ground free from snow, except for a day or two at a time, and the grass is always within reach of the cattle.

12. In the far north, in the North-West and North-East Territories, the winters get longer and the summers shorter, till, in the

Polar regions, winter seems to have no end. In the plains, too, especially in Manitoba, fierce snow hurricanes sweep over the ground, and force man and beast to seek the nearest shelter.

3. *Effacing.* Hiding, removing.

8. *Grace her triumph.* Adorn and beautify her work when completed.

44. Productions and Industries: (1) Farms and their Produce.

1. If we include under the term farming, corn growing, stock raising, and dairy farming, then farming is the most extensive and the most valuable of the industries of Canada, and gives employment to more than one half of the population.

2. Formerly the Canadian Government gave free grants of land to settlers; and even now, except near the towns and the great lines of communication, land can be had for nothing, or for a mere nominal sum.

3. In nearly all the southern part of the country, from the Atlantic to the Rocky Mountains, on each side of the St. Lawrence, around the Great Lake, and especially on the vast plain westward from Lake Winnipeg, the soil is excellent, and capable of producing all the plants



WHEAT FIELD ON THE MANITOBA PRAIRIE.

and fruits to be found in this country, and others which we are unable to raise.

4. Manitoba, formerly called the Red River Settlement, is the chief wheat growing district. A few years ago it consisted almost entirely of boundless rolling prairies, over which roamed countless herds of bison; now much of it has been converted into corn land, and immense crops of wheat are grown. Of late, mixed farming, including dairy farming and the raising of cattle and sheep, has been introduced. The great Central Plain, drained into Lake Winnipeg, contains an area of corn growing land three times as large as that of England.

5. Farming is the main industry of Ontario and Quebec, but here barley and oats are the chief cereal crops, though wheat and maize are grown in favoured spots. Ontario produces the finest barley in the world, and large quantities are exported to Great Britain, to be used in brewing beer and in distilling spirits.

6. In the upper valley of the St. Lawrence River, in the valley of the Ottawa, and on the peninsula which lies between the three great lakes—Ontario, Erie, and Huron—the usual English crops of corn, vegetables, and fruits are grown; and, in addition, Indian corn, peaches, grapes, melons, and tomatoes ripen in the open air.

7. Nova Scotia is too damp to allow cereals to ripen properly, and bread stuffs have to be imported; but round the Bay of Fundy, both in New Brunswick and Nova Scotia, the best apples, pears, and plums are grown. The apple orchards of Nova Scotia extend mile on mile without a break.

8. Alberta is pre-eminently the cattle district of the Dominion. "Its clear cold streams and splendid grasses make it a very paradise for cattle." Ten years ago two million acres were leased for grazing purposes. Some of the best pasture land is also to be found in Prince Edward Island, where dairy farming is the chief industry.

9. Cheese is the most important dairy farming product of Canada; and, together with butter, is exported in large quantities. In most parts these food stuffs are made on the co-operative plan. A number of farmers send their milk to one dairy; and each receives his share of the profits, according to the quantity of milk he supplies.

2. *Nominal.* Not much more than in name.

5. *Cereals.* Plants producing grain, such as wheat and rice.

9. *Co-operative.* Working together.

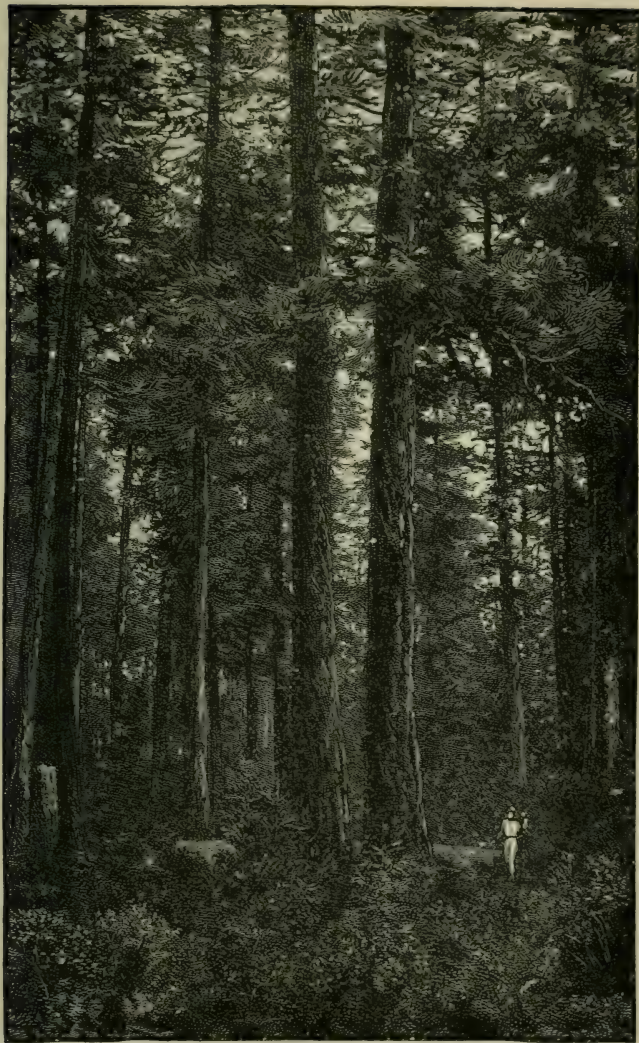
45. Productions and Industries : (2) Lumbering.

1. One third of the total area of the Dominion is covered with dense forests, containing trees of gigantic growth. All the common trees of this country, the pines and firs, the oak, ash, birch, beech, elm, and walnut are to be found in abundance. But those of special value as timber for export are the White pine, the various kinds of Spruce fir, and the Douglas pine. The Sugar maple is also an important tree.

2. The White pine yields the timber of commerce known as Yellow pine, and is much used in this country for all kinds of indoor work. It is cheap, clean, and glossy ; and easy to work. The trees grow to a height of 100 to 250 feet, with a girth of from 9 to 12 feet near the base.

3. The timber from the various kinds of Spruce fir is called White deal. It is one of the commonest, and most useful of timbers. Immense quantities are sent out every year from Montreal, Quebec, and St. John.

4. The Douglas pine is by far the most important timber tree of British Columbia. It is an evergreen tree of erect growth, sometimes attaining to a height of more than 200 feet, and a girth of 25 feet. It is not much used in this country owing chiefly to the great cost of transport. A good specimen trunk of this tree,



FOREST OF DOUGLAS FIRS, VANCOUVER ISLAND.

159 feet in height, is used as a flagstaff in the Royal Botanic Gardens at Kew.

5. Lumbering, that is the felling of trees, and the preparation of the timber for market, ranks next to farming, as the most important industry in Canada. The chief centres for lumbering are Quebec, Ontario, and British Columbia.

6. When winter comes and the snow lies deep, then men leave their homes, and repair to the backwoods, perhaps miles away from the nearest settlement, to fell trees. The trees to be cut down have previously been marked by persons sent to explore the woods.

7. The men go in gangs, and take with them provisions and horses or oxen, and whatever else may be necessary for a stay, which usually lasts the winter through. The first thing to do, on arrival on the spot selected, is to build a "shantie" for themselves, and hovels for the horses or cattle.

8. Now the work is divided: one part of the gang chops down the trees, another lops off the branches and squares the logs, a third cuts a road through the forest to the stream down which the logs are to be floated in the spring, and then, with the horses or oxen, they haul the logs to its banks. If the party is large, one team will perhaps have to be employed in carting provisions.

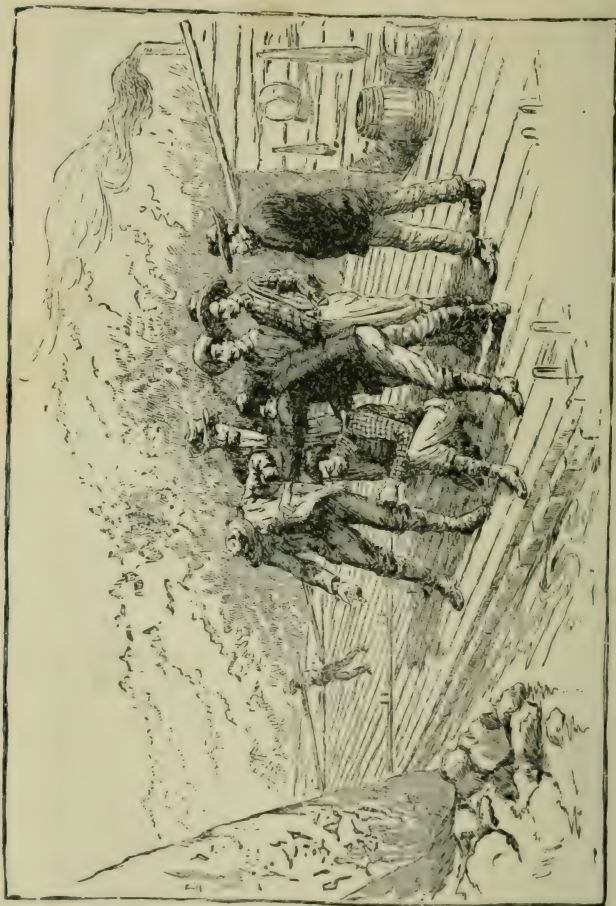
9. Lumbering is toilsome and wearisome work,



TIMBER RAFTS.

and the men welcome the approach of spring, for then they return to their homes. When the ice

of the river breaks up, the logs are rolled into



GUIDING THE RAFT

the stream, fastened together into rafts, and floated down, some to saw-mills, to be cut into

deals for home and foreign use ; others to the ports, whence they are exported as logs.

10. There is a good deal of excitement, and a spice of danger, in guiding the rafts down the swollen stream, and shooting them over the many rapids, which abound in the Canadian rivers.

11. When it becomes necessary to float the rafts on the larger rivers, for instance from Ottawa to Montreal, and thence on the St. Lawrence to Quebec, the smaller rafts are united to form larger ones. On these, huts are built in which the men in charge live during the journey ; and cattle are taken on board, to serve for food.

12. The Canadian saw-mills are the largest and the most perfect in the world. The logs are lifted from the water, placed under the saws, and cut into inch boards in a few minutes ; and the motive-power is supplied by the water of the stream.

2. *Girth.* Distance round.

12. *Motive-power.* That which produces the motion.

46. Productions and Industries : (3) Hunting and Fishing.

1. It was in the year 1676 that a Joint Stock Company of seventeen noblemen and gentlemen

was formed by Prince Rupert, for the purpose of trading in furs and skins collected from the country around Hudson Bay.

2. This company of "Merchant adventurers trading with Hudson Bay" obtained a charter from the king, Charles II., giving it the sole right to traffic over an undefined territory discovered, or to be discovered, in the basin of Hudson Bay, known as Rupert's Land.

3. This immense territory was inhabited by a few tribes of Indians, who got their living mainly by hunting and fishing. Wild animals there were in abundance; and, owing to the severe winter climate, most of them were clothed with thick fur.

4. If you look at a map of Canada you will see a number of places called Forts. These were the small scattered stations where the company traded with the Indians, receiving furs and skins in exchange for guns, powder and shot, knives, blankets, and other articles. Strong wooden fences were built at these stations, within which the traders were often glad to be able to protect themselves from the savage attacks of the Indians.

5. Here is a description of one of these old Forts. Fancy an oblong of greater or less extent, enclosed by a fence twenty-five or thirty feet in height, composed of upright trunks of trees

sunk in the ground, and fastened along the top by a rail, and you have the enclosure. At each corner was a projecting fort, built of squared logs, and pierced for guns, which could sweep every side of the fort. Inside the fence was a gallery running right round the enclosure, just high enough for a man's head to be level with the top of the fence. At intervals, all along the side of the fence, were loop-holes for musketry; and, over the gateway, was another fort from which shot could be poured on any party attempting to force open the gate. Inside this enclosure were houses for the servants of the company, store-rooms, wells of water, and sometimes a good garden.

6. Trapping the fur animals was not always confined to the Indians. Many white men left their homes, to lead a wild and lonely life in the woods for months together, hunting for "furs"; and always dependent on their rifles for food and safety.

7. The most valuable furs were those of the variously coloured foxes—black, blue, grey, red, and silver; the several species of martens, and the beaver. The skin of the black fox was the most valuable of all; but the most important for trade purposes was that of the beaver. Owing to the low price it fetches, the latter is now of much less importance.

8. For about a century the company confined its operations to the district round the coast; but, after Canada was ceded to Britain in 1763, trappers made their way westward from the great lakes almost up to the Rocky Mountains, in search of furs. This led to the formation of another company in 1783—the North-West Fur Company of Montreal.

9. A fierce rivalry at once sprang up between the two companies. “Every method which cunning could suggest, or even open violence compass, was adopted by the servants of the companies to outwit each other, and to obtain the furs from the Indians. Forts were taken and burnt, the officers and men in charge were imprisoned and half starved, the furs on the way to the forts were stolen, and the whole trade was turned into a furious conflict.”

10. This state of things continued till 1821, when the two companies joined, the joint company retaining the old name, the Hudson Bay Company.

11. In 1869 the company sold all their claims to the Dominion of Canada for £300,000, retaining only their forts with 50,000 acres of land, and one-twentieth of the fertile belt lying between the Red River and the Rocky Mountains. The company is yet in existence and still

does a considerable trade in furs, exporting most of them to London.

12. The fisheries of the Dominion are very extensive. The surrounding seas, and the great inland lakes, and the innumerable rivers abound in fish. In the gulf of the St. Lawrence and the adjacent seas, cod, herring, and mackerel, together with lobster, are mostly sought after. In the rivers, salmon and trout are the commonest fish. The rivers in British Columbia teem with salmon, and quantities of this fish—both tinned and smoked—are imported into England.

1. *Joint Stock Company.* A number of people trading together, each member contributing a certain share of the money necessary.
2. *Charter.* A writing.

47. **Productions and Industries: (4) Minerals and Mining, Manufactures, Commerce, and Trade.**

1. Canada is rich in minerals; but so far they have not been worked to any considerable extent. The most important is coal; and vast beds of coal exist in Nova Scotia, New Brunswick, and British Columbia, including Vancouver Island, and also in the North-West Territory.

2. Upwards of one and a half million tons of coal are taken every year from the mines in

Nova Scotia, and sent to other parts of Canada, to the West Indies, and to the towns on the St. Lawrence. The mines in Vancouver Island are the most important on the Pacific Coast; and the coal is of so good a quality that, in spite of the duty, it finds its way into the United States. The coal-fields in the north-west of Canada cover such an immense area, that the supply of coal seems to be without a limit.

3. Iron is found in almost all parts of the Dominion, and the mines of Nova Scotia are very rich; copper exists in vast quantities to the north of Lakes Superior and Huron; silver is found in both these districts, and gold is worked in British Columbia and Nova Scotia, but the output is decreasing.

4. Petroleum or rock oil (from which paraffin is made) is another important mineral. It is got by sinking wells in the southern part of Ontario, near Lake Huron. The supply of oil seems to be without end. Brine springs also exist in the same district.

5. The manufactures of Canada are many, but as yet, not extensive. The chief are agricultural implements, ironware, woodware, cottons, woollens, leather, paper, soap, and engines and carriages.

6. Ship-building is carried on to a considerable

extent in the ports of the maritime provinces ; but the substitution of steel and iron for wood in the construction of ships has checked the growth of this important industry.

7. Canada possesses a very considerable and increasing commerce, especially with the United States, and the United Kingdom. Its chief exports are timber, cereals and flour, cheese, cattle and horses, and dried fish : and the chief imports are iron and steel—both raw and manufactured—woollen goods and wool, coal and coke, bread stuffs, sugar, cotton goods and cotton.

8. Canada has an extensive railway system. By far the most important line is that from Montreal to Vancouver, called the Canadian Pacific. It is nearly 3000 miles long. Another line—the Inter-colonial—joins Quebec with Halifax, a distance of nearly 700 miles. A third—the Grand Trunk—connects Montreal with Chicago.

9. As Quebec and Montreal are connected by rail, it will be seen that passengers can traverse the whole continent from the Atlantic to the Pacific, a distance of 3472 miles, without a break.

10. The importance of this railway to the prosperity and progress of the Dominion can hardly be over-estimated. It opens up a vast region of land west of Lake Winnipeg, about

as fertile as any in the world, whence the farmer can now send his produce—his corn or his cattle—to the towns either on the coasts, or in the interior.

11. The railway too is important to England. It shortens the distance between Liverpool and Japan, and between Liverpool and China, by a thousand miles, and every inch of it is constructed on British soil.

12. Besides these trunk railways, there are numerous branch lines to the smaller towns, the whole making up a system of some 18,000 miles.*

6. *Maritime.* By the sea.

Substitution. Putting one thing in the place of another.

10. *Over-estimated.* Thought too much of.

48. Population and Government.

1. The population of the Dominion of Canada which in 1825 was only a little more than half a million is now about $5\frac{1}{2}$ millions.

2. It is a mixed collection of many nationalities. More than one quarter are descended from the French, and another quarter from the English, Irish, Scotch, and Welsh. The Irish are much more numerous than either English or Scotch, except in Nova Scotia, where the



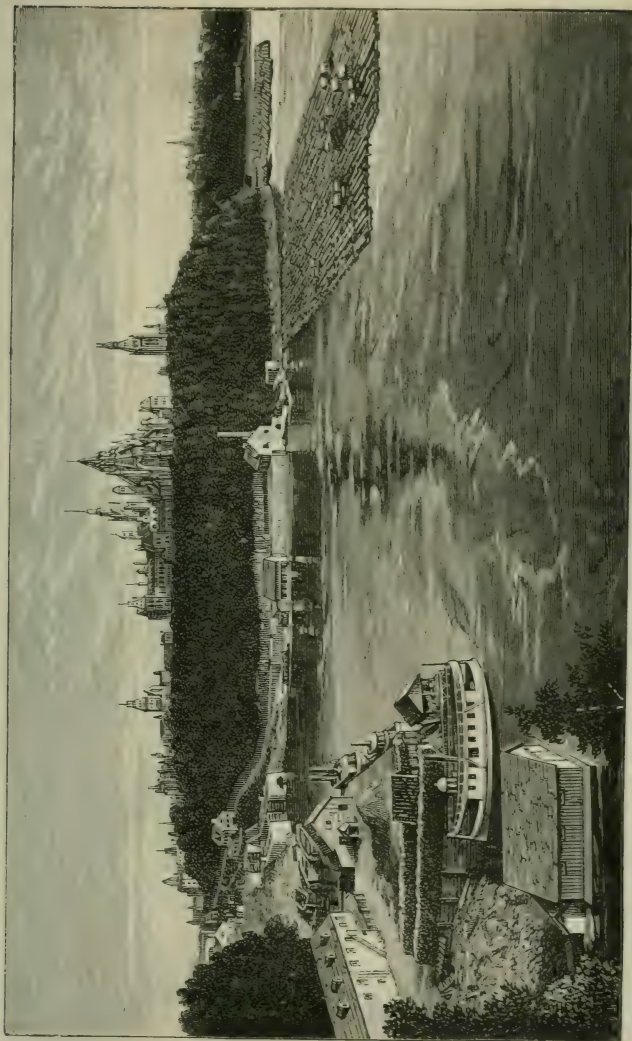
INDIAN ENCAMPMENT ON THE GREAT PLAINS, WESTERN ASSINIBOIA.

Scotch outnumber the English, and the English the Irish. The Germans come next in number. The remainder are descended from the peoples of almost every country in Europe, and even Africa and China have contributed largely. The Indians number about 100,000. A large sprinkling of immigrants is added every year.

3. The great number of French Canadians is owing to the fact that Canada was at one time a French colony. Quebec, the oldest province, is more French than English even now. The people speak the French language, and retain the manners, customs, religion, and even the laws of their French forefathers. In the provincial parliament the speeches are made in French.

4. The native tribes of Canada—the Indians—are fast disappearing off the face of the earth. They live by hunting and fishing, and some of them do a little farm work. In the eastern provinces they wander about in small bands, like gypsies, selling little articles of their own make.

5. In the barren grounds of the north, and around the shores of Hudson Bay and Labrador, a few scattered tribes of Eskimo are found. They live chiefly by hunting the seal, which provides them with clothing, food, and light. In the winter they live in snow huts, and in



PARLIAMENTARY BUILDINGS, OTTAWA.

summer in tents made from the skins of animals they have killed.

6. The government of Canada is very similar to that of the mother country. The Parliament consists of an Upper House—the Senate—and a Lower House—the House of Commons—which sit at Ottawa. The King is represented by the Governor-General. This Parliament makes general laws for the whole of the Dominion.

7. But, in addition, each province has its own Parliament, consisting of either one or two houses under a Lieutenant-Governor. It has the power to make laws for its own internal welfare, and conduct all its own local affairs, provided nothing is done contrary to the general law of the land.

2. *Immigrants.* Strangers coming into a country to reside.

49. Newfoundland.

1. Newfoundland is an island lying at the mouth of the Gulf of St. Lawrence, and separated from Labrador by the Straits of Belle Isle. It is quite independent of the Dominion of Canada. A large slice of land on the coast of Labrador is claimed by Newfoundland as a dependency. In area it is one-third larger than Ireland: but its population numbers only about 200,000.

2. The surface of the island generally is undulating; but, in the south-east, the mountains rise to a considerable height. Much of the land is swampy and barren, and moors and lakes abound. Probably one-third of the whole surface is covered with water.

3. The cultivation of the soil has hitherto been almost entirely confined to the sea-board; but of late, large tracts of fertile land have been found in the lake and river valleys, and on the west coast.

4. Much very fine timber, chiefly of the pine and spruce kind, is found in the river valleys and near the coast. Most of the people are connected with the fishing industries, and less attention is paid to agriculture than in the provinces of the Dominion. Potatoes, barley, and oats grow very well; but the climate is too moist for wheat to ripen.

5. Copper is the most important mineral found in Newfoundland; but coal, iron, and lead are also found in several places.

6. The main occupation is catching and curing fish; but the capture of seals for their skins and fat, and the canning of lobsters, add considerably to the wealth of the island. The waters of the rivers and lakes, and the surrounding ocean, teem with fish, of which the most important are cod, herrings, and salmon.

7. The cod fishery has three branches—one lies along the shores of Labrador, and in this about 30,000 people from the island are engaged during the season, which lasts from June to November; another is the shore fishery around the island; and a third is the fishery over the “Banks of Newfoundland.”

8. The banks are table-lands, which lie southwards from Newfoundland, rising up from the bed of the ocean, having an area about as large as that of the British Isles. They are covered with water to a depth varying from 100 to 600 feet. The Grand Bank is the most prolific in fish.

9. The value of the yearly export of cured cod-fish considerably exceeds a million pounds.

10. St. John's, the capital and chief town, is built on a small harbour on the south-east peninsula. It is almost entirely dependent on the curing and export of fish.

11. The people suffer much inconvenience from the dense fogs, which sometimes last for weeks. They are caused by the cold winds from the icy north mixing with the warm moisture-laden air over the gulf stream, which passes eastward some distance south of the island.

ε. *Prolific.* Fruitful.

AUSTRALASIA.

50. General View.

1. Australasia is the name given to a large number of islands, lying in the Pacific Ocean, to the south-east of the continent of Asia.

2. Some of these islands are British colonies, and very often when people speak of Australasia they refer only to these colonies. A few of the islands belong to other European nations. Some are inhabited by natives, more or less savage. Hundreds of the smaller islands are mere rocks, uninhabited, and unfit for habitation.

3. Look at the map of Australasia. What can we learn from it? That which claims our notice first of all is an enormous island to which, in comparison, most of the others seem but mere pigmies. This is Australia, one of our largest and most important colonies. We shall learn about Australia in the lessons which follow.

4. North of Australia we see a number of islands, the largest of which is named New Guinea. This island is separated from Australia by the Torres Strait. The eastern part belongs to Great Britain.

5. Southward of Australia we note a smaller island called Tasmania. This island was once a place to which convicts were transported from

England, and then it was known as Van Diemen's Land. It is divided from Australia by Bass Strait.

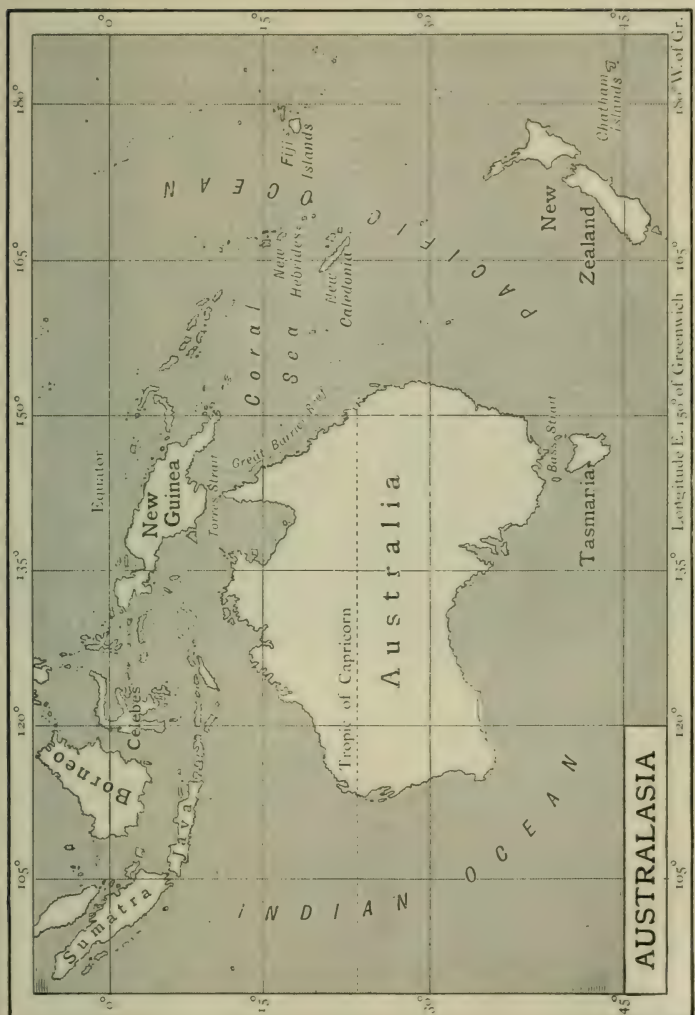
6. East of Tasmania, and about 1,000 miles distant from it, we find a group of islands—two large and several small. The two large islands are called New Zealand. This is another important British colony.

7. Eastward again from New Zealand, groups of islands stud the ocean, but hundreds of miles apart. The Fiji group belongs to Britain, and the New Hebrides are claimed, though not occupied, by the British.

8. Off the north-east coast of Australia you will see the name Coral Sea; and, running for hundreds of miles almost parallel with the coast, the Great Barrier Reef. Why is the Coral Sea so called? And what is the Great Barrier Reef?

9. The Coral Sea is so called from the number of coral islands to be found in it. These islands consist mainly of limestone, and have been built up in the course of long ages, by the wonderful little jelly-like animals—the “coral polypes.” These polypes take the limestone from the water, and build the coral rock on which they live, just as an oyster takes the limestone from the water to form its shell.

10. The Barrier Reef is a narrow island of coral, more than a thousand miles long. It



Walker & Boutwell sc.

lies distant from the shore from five to seventy miles. It varies in width up to sixty or seventy miles, and the portion of the reef above the water,



GROUP OF FIJI MEN.

together with its numerous islands, is estimated to cover an area of 36,000 square miles

3. *Pigmies.* Very small in size.

AUSTRALIA.

51. General View.

1. First in order amongst the Australasian islands, we must learn about Australia. From

its vast area, about one-fourth less than that of Europe, it is often called a continent. What does the map¹ teach us about Australia?

2. The island is compact in form; that is, it is not much broken into by the sea. Its outline is simple; in other words, the bays and lochs are few in number, and usually small.

3. One long peninsula is seen in the north—the York Peninsula; and one large gulf, that of Carpentaria. One broad shallow bay—the Great Australian Bight—washes the southern shore for more than a thousand miles, but is without a single harbour. East of it we find the Spencer and St. Vincent gulfs.

4. The Great Australian Bight is one of the peculiar features of the south coast of Australia. It is bounded by cliffs from 200 to 400 feet in height; and, throughout its whole distance, not a single river breaks through them into the sea.

5. Few islands are seen; and, with the single exception of Tasmania, they are all small and of little account.

6. There is only one great mountainous region; and that extends in more or less parallel ranges from Bass Strait to the peninsula of York. There are, however, as we shall learn later on, some highland regions in the west and south,

¹ See page 163.

and some inland. The interior of the continent, nevertheless, consists mostly of low table-lands and plains.

7. The rivers and lakes are remarkably few, considering the size of the country. The only river of importance is to be found towards the south-east. This is the Murray, which, with its great tributary the Darling, drains an area equal to four times that of the British Isles.

8. The many little rivers, running from the mountains on the east and west coasts to the ocean, are short, and of little industrial value. Most of those on the west coast are quite dried up at times.

9. Westward from the Darling River is the region of lakes, into which several rivers empty their waters. Lakes Eyre, Torrens, and Gairdner are the chief. Lake Amadeus, quite in the interior, covers a large area.

10. You may note, too, the absence of names in many parts of the interior. This points to land unfit for habitation, in fact, deserts, about which we know very little.

11. As you will see from the map, the continent is divided into *five* provinces—Victoria, New South Wales, Queensland, South Australia, and Western Australia.

52. The Surface.

1. Roughly speaking, the surface of Australia may be said to consist of immense lowlands and low table-lands, which occupy nearly the whole of the centre; one vast low-lying plain in the south-east; a great highland district in the east and south-east; a smaller highland district in the west; some uplands and hill ranges running through the centre from north to south, and, lastly, coast plains between the east and west highland districts, and the sea.

2. Much of the interior of Australia is covered with dreary deserts. Sometimes these are absolutely barren, but usually they are clothed with bush, or scrub, or prickly grass,¹ which makes a journey across these arid plains a difficult, and even dangerous undertaking. The soil is a red, sandy clay, more or less charged with salt.

3. Exploration—though often carried on under privations and sufferings from heat and want of water—has put us in a position to form an idea of the general character of the country; yet there are enormous regions of which we know but very little.

4. The great low-lying plain includes the basin of the Murray and its tributaries. It lies

¹ See lesson 55.

between the highland belt on the east, and the Flinders Range and the coast on the west.

5. The highland district of the east consists of a belt of mountainous country, trending north and south from Bass Strait to the York Peninsula. It follows the line of the coast at a distance of 20 to 100 miles from it, and has a width of about 150 miles.

6. This belt has been called the Great Dividing Range, because it divides the coast plains from the central plains: but really it is not a single range. It is better described as a mountainous district, with here and there some regular mountain chains, to which special names have been given.

7. In the south we have the Pyrenees and the Australian Alps, and farther north the Blue Mountains, followed by the Liverpool Range. The latter widens out into the pasture lands of the Liverpool Plains, and the treeless Darling Downs. The highest peaks occur in the Australian Alps, where Mount Townsend is said to exceed 7,000 feet.

8. The mountains of Western Australia skirt the coast on the south; but farther north they form detached chains running east and west. They are less well known than those on the east coast.

9. We know very little of the highlands of the

north-west. Clusters of hills, interspersed here and there with grassy plains and fertile valleys, spread through the interior of the country from the north-west to Spencer Gulf on the south.

10. Between the mountains and the sea on the east coast we find a fringe of well-watered plains, about eighty miles wide, fertile in vegetable productions, and rich in minerals.

2. *Arid.* Hot, parched.

Charged with salt. Having salt mixed with it.

3. *Exploration.* Searching out.

9. *Interspersed.* Dotted about.

53. Rivers and Lakes.

1. The water-system of Australia is very peculiar, and quite unlike that of most other countries. The rivers are not only subject to flood, but to drought. At times they are filled to overflowing, and become raging torrents; while at other times they are practically dried up, or have become mere chains of pools.

2. The Murray, the largest of the Australian rivers, is formed of many streams, most of which take their waters from the western slopes of the great eastern highland belt. Its chief tributaries are the Murrumbidgee, the Lachlan, and the Darling. The last is the most important

of these main streams, though this even ceases to flow at times.

3. The volume of water flowing through the winding beds of these streams, is usually not great, and sometimes for months together very limited indeed, though at times swollen to overflowing.

4. The Murray and its main tributaries are usually in a condition to serve for inland trade with small vessels. Before entering the sea, at Encounter Bay, however, the Murray spreads out into a large lagoon—Lake Alexandrina—which is too shallow for navigation.

5. The rivers of the east coast, through the more steady rainfall, are always navigable for small vessels for a few miles inland. None of them are large.

6. The rivers of the west coast are intermittent. After the rains, or the melting of the snows, for a few weeks they rush merrily along, often overflowing their banks; then for the rest of the year they all but disappear. The Swan is the chief river of the west.

7. The northern rivers are numerous, but not important. The Flinders and Victoria are the chief. The latter flows through deep gorges, and amongst magnificent scenery.

8. The rivers of the interior, which are formed after rains, never reach the sea. They flow either

into lakes or shallow creeks, or become lost in the sandy deserts.

9. West of the great plain we come to a district containing many salt lakes; but, like the rivers, these are liable to fluctuations in area and in depth. Some dry up in the drought, and become flats of saline mud, or plains of green grass.

10. Lake Torrens lies due north from Spencer Gulf. Lake Gairdner lies west, and Lake Eyre north of Torrens. Far away to the north-west, among the central hills, we find Lake Amadeus. Lake Eyre, the largest Australian lake, at its best covers an area about half as large as that of Wales.

6. *Intermittent.* Ceasing at intervals.

9. *Fluctuation.* Change.

Saline. Salt.

54. Climate.

1. The climate of Canada is characterized by the dry cold of winter; that of Australia is marked by the dry heat of summer; and both are exceedingly healthy. The climate of Australia is, however, very irregular and uncertain.

2. In all parts of Australia the rainfall is unequal, but less so in the west than in the east. Occasionally the fall of rain is excessive

to a degree never seen in this country; and then, perhaps, for months together no rain falls. The consequence of this irregularity is that the country suffers from floods and droughts.

3. The floods are sometimes very destructive to life and property, and the droughts are often equally destructive. In the drought of 1884 the vegetation was completely withered up; and it is said that ten million sheep perished for want of food and water.

4. Speaking very generally, in the northern portion of the island rain occurs mostly in summer, and in the south-eastern part mainly in winter. On the east coast there is usually a copious rainfall, but it decreases as we proceed westwards towards the centre of the continent, until, from want of water, habitation becomes impossible.

5. Western Australia suffers less from floods and droughts than the eastern and south-eastern districts. Its rainfall is about the same as that of England, and nearly all the rain falls in the colder half of the year, that is, from April to November.¹ The summer is dry, with occasional showers and thunderstorms.

6. The summer temperature is high everywhere, and often excessive, and the winters are

¹ The summer months in Australia are the winter months in England.

much warmer than those of England. South Australia and Victoria, and, in a less degree, New South Wales, are subject to occasional hot scorching winds from the interior, which almost resemble the blast of a furnace. Plants droop, and those with tender leaves shrivel up as if frost-bitten. In the inland deserts, where these winds have their origin, the heat is intolerable.

7. Though the summer heat of the eastern coast plains is less than that of the interior, to many persons it is more trying, because it is a moist heat, while in the interior it is dry and bracing. On the other hand, the sea breezes of both the eastern and western coasts make the heat less oppressive during the day.

8. Snow and ice are almost unknown in Australia, except in the mountainous districts, where the snowfall is sometimes heavy. Some of the higher mountains are covered with snow all the winter through, and in many of the valleys and ravines, near the summits, snow lies in patches during the summer.

2. *Excessive to a degree.* Extreme, far beyond the usual.

4. *Copious.* Full.

6. *Intolerable.* Unbearable.

7. *Bracing.* Strengthening, health-giving.

55. Vegetation.

1. To the newly arrived settler, the vegetation of Australia seems to be altogether different from that to which he has been accustomed. Most of our trees shed their leaves on the approach of winter; the trees of Australia are nearly all evergreens. Here the upper surfaces of the leaves take on a darker hue than the under surfaces; there both surfaces show the same sombre grey and olive green tints. Here the leaves spread out their flat upper surfaces horizontally, there they hang vertically from the branches, turning their edges rather than their faces to the sun.

2. The effect of the sameness in colour of the leaves is to make the woodland scenery dull and monotonous. One piece of landscape is like the next; and this strange uniformity is made more marked by the fact, that the changing seasons bring no corresponding change in the colour of the evergreen leaves, such as is produced in our autumn leaves. Then, owing to the peculiar vertical arrangement of the leaves, the trees of Australia afford comparatively little shade from the rays of the blazing summer sun.

3. It must not, however, be supposed that the wooded scenery of Australia is always so melan-

choly and uninviting. In spring some of the trees are covered with brilliant flowers, and these, together with countless flowering shrubs, serve to dispel the gloom. Tall palms and beautiful ferns, too, in places embellish the forests; and in the south-east the graceful tree ferns, sometimes 30 feet high, flourish in the moist valleys.

4. But the most striking feature in the Australian vegetation is the "Scrubs." These scrubs consist of shrubs, and bushes, and other plants forming dwarfed forests, which cover thousands of square miles, and are more difficult to cross than the arid and sandy desert itself.

5. One of the most common of these scrubs is the "Mallee." It grows something like the osier in this country. The branchless stems, which grow to a height of 14 feet, are set close together like reeds. When a road is cut through this scrub it looks like a trench with high walls on each side. In South Australia there is a tract about 9000 square miles in extent, entirely covered by this scrub; and similar tracts occur in other parts of the country.

6. Another of these scrubs is the "Mulga." These bushes are armed with sharp spines, and form a mass of vegetation impossible to penetrate. Other scrubs are formed by a beautiful flowering shrub called the tea-tree. The scrub

formed of this plant is less dense, and less disagreeable to cross than the other scrubs.

7. Next in extent to the Mallee scrub are the heaths. These usually consist of vast level sandy tracts, dusty in summer and boggy in winter, everywhere covered with a tangled mass of bush about two feet high. In spring the "heaths" look very beautiful, owing to their bright coloured flowers.

8. The most terrible of the vegetable productions of Australia, however, is the porcupine or needle grass, which extends for hundreds of miles, and probably covers a larger surface than any other Australian plant.

9. The characteristic trees of Australia are the gum trees, white, red, blue, and many others. These are the chief trees of the woods which border the streams, and of the dense forests which clothe the mountain slopes. Among them we find the true giants of the forest, many reaching a height of over 400 feet. The gum trees annually shed their bark instead of their leaves.

10. Next to the gum trees the acacias are most abundant. They are called "wattles"; and in spring their elegant yellow blossoms add greatly to the beauty of the landscape.

11. A remarkable tree is the Beefwood, or Shea-oak of the colonists. This is a leafless

tree, whose long drooping stiff branches, resembling those of our horsetails, render it the most singular and picturesque object of South and West Australia. The wood is as good as our oak, and of the colour of raw beef, whence its name. Another West Australian tree is the Jarrah, or Swan River mahogany, very valuable for its timber.

12. The Grass-tree too forms a notable feature. It has a rugged stem, from two to ten feet in height, topped with a tuft of drooping wiry foliage, from the centre of which rises a spike not unlike a huge bulrush. In winter this spike is covered with white starlike flowers. A heath, dotted with these grass trees, has an appearance at once singular and beautiful.

13. Wheat and maize, the vine, orange, peach and other plants all flourish in Australia; but they have all been imported. None are native.
—*Adapted from "Australasia" by Wallace.*

1. *Sombre.* Dull, quiet in colour.
2. *Monotonous.* All of the same colour, unvarying.
3. *Embellish.* Beautify.
6. *Penetrate.* To cut through.
8. *Porcupine grass.* The blades being stiff and pointed like the spines of the porcupine.
11. *Horsetail* A plant without leaves—the stems and branches are hollow and jointed.

56. Animal Life.

1. The plants of Australia are strange and peculiar to us, but the animals are even more so. With the exception of some species of rats



DINGOES.

and mice, and a half wild dog—the dingo—which was most likely introduced by the earliest inhabitants, all the mammals of the other continents are wanting.

2. And yet Australia has a set of mammals of her own which have many peculiarities of

structure and habit; of these the most striking is that they have pouches in which they carry their young.

3. The largest of the pouch-carrying animals are the kangaroos, of which there are about 40 different kinds. The kangaroo does not run on "all-fours" like the horse or the cat, but uses its hind legs for leaping, just as the frog does. The small and feeble fore legs, and the long and stout tail, help the animal to keep its balance. The largest of the kangaroos is about the height of a man.

4. The opossums are a large family of squirrel-like animals, which live in the trees, and feed on leaves. In the daytime they sleep in the hollows of the tree-trunks. At night, especially on moonlight nights, they are most active. The flesh of the opossum is a favourite article of food with the natives of Australia. Their skins form an article of commerce. Some of the species of opossums are as large as a hare, others are as small as a dormouse.

5. The so-called "flying opossums" are beautiful creatures. The largest species, which are nearly black, are larger than the ordinary cat. The smallest specimen, the flying mouse of the colonists, can sleep comfortably in a pill box. The native cats form the flesh-eating group of this continent. They are small elegant animals,



KANGAROOS.

variously striped and spotted, but wild and fierce.

6. The most curious creature of all, however, is the platypus or water-mole. This animal is about 20 inches long, is covered with dark brown fur, has very short legs, with broad-webbed feet,

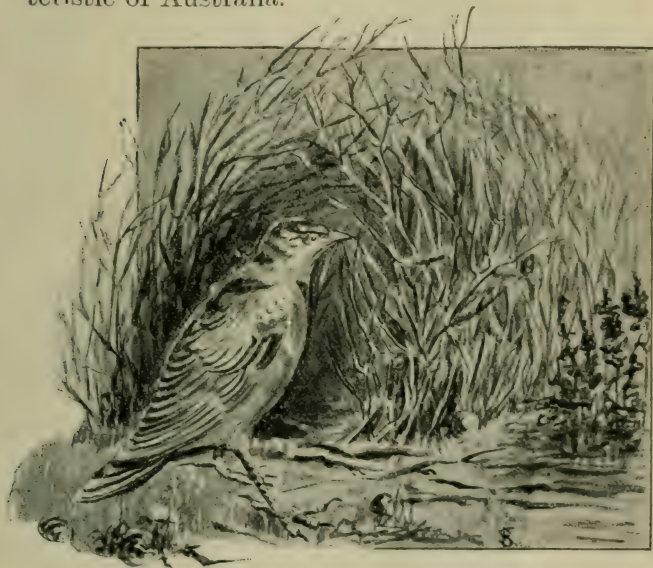


PLATYPUS.

and a flat head, from which projects a bill very much like that of the duck. It makes burrows in river banks, at the end of which it constructs a nest, in which the female lays her eggs.

7. The birds of Australia are very numerous, and many of them are noted for their variety of form, and the beauty of their plumage, and

some of them for their curious habits. Parrots and their many allied species, all gorgeous in colour, are more plentiful than in any other part of the world. The emu and cassowary—birds of the ostrich tribe—the lyre bird, the brush turkeys, and the bower birds, are all characteristic of Australia.



THE BOWER BIRD.

8. The imported animals seem to increase and multiply much faster than at home. The rabbit and sparrow have increased to such an extent as to be a positive nuisance. “In New South

Wales about 2000 men are now permanently employed trying to kill off the rabbits, which eat up all the herbage."



LAUGHING JACKASS.

1 *Mammals.* Animals which give suck to their young.

57. Productions, Industries, People.

1. The chief product of Australia is wool, and about 20 million pounds' worth is exported each year. Of this New South Wales produces nearly one-half, and Victoria more than one-fourth. The great sheep-runs are on the western slopes of the eastern highlands; and in the plains of the Murray river system. Mutton, too, is exported in large quantities in a frozen state.

2. Wheat is the next important product, and South Australia is the greatest wheat-growing colony. Other less important agricultural productions are maize, oats, wine, and fruit.

3. Minerals abound in Australia, chief among them being gold, tin, silver, iron, and coal. The total yield of gold by Australia, since its discovery in 1852, is said to amount to the enormous value of 300 million pounds. Victoria has yielded the largest amount, though large quantities have been found in New South Wales, and more recently in Queensland. Tin is found in Queensland, coal and silver in New South Wales, and iron in West and South Australia.

4. The chief industries are sheep-farming, agriculture, and mining. Manufactures are

mostly confined to products for home consumption. Sheep-farming employs the fewest number of persons, but yields by far the largest returns.

5. The commerce of Australia in proportion to its population is greater than that of any other country in the world. The total yearly value of its exports and imports amounts to over 114 millions. Great Britain takes about one-fourth of this trade. The chief imports are textile fabrics and clothing, and iron and steel goods. Splendid lines of steamers ply regularly between Australia and Great Britain, Europe, and America.

6. The total population of the continent, as we have already noted, amounts to about three millions, that is, considerably less than half that of London. Victoria is the most densely populated of the Australian colonies. The black natives of the country are rapidly decreasing in number. They are the lowest and most degraded of all savages.

7. Considering the sparse population, Australia is admirably supplied with railway and telegraph lines. In fact, it is better supplied with railways than with roads.

8. The five colonies in Australia have their own parliaments and govern themselves, the governors only being appointed by the King

at home. West Australia was the last colony to obtain the right of self-government.

6. *Degraded.* Low, depraved.

58. History.

1. Australia was not discovered till some time during the sixteenth century. The first notice we have of it was printed in a book in 1598 : "Australia is the most southern of all lands, and is separated from New Guinea by a narrow strait. Its shores are hitherto but little known, and seldom is the country visited unless when sailors are driven there by storm. Australia begins at one or two degrees from the equator, and is ascertained by some to be of so great an extent, that, if it were thoroughly explored, it would be regarded as a fifth of the world."

2. Captain Cook, a great navigator, landed on the island in the year 1770 ; and took possession of it in the name of George the Third. He explored the whole of the east coast. His first landing place was Botany Bay. Round the shores of this bay so many curious and beautiful flowers were found that Cook gave it the name which it still bears.

3. It was on the shores of this bay that the first settlement was made, eighteen years after Cook's visit. This was a penal settlement, that

is, a place to which convicts were transported from England. The shores of Botany Bay not proving suitable for the purpose, the colony was removed to Port Jackson, a few miles farther north, where the convicts built a small town called Sydney. Free settlers soon followed, and Sydney proved to be the beginning of the now flourishing colony of New South Wales.

4. The discovery of gold in 1852 proved to be a notable event in the history of Australia; and the completion of the telegraph line in 1872 right through the middle of the continent, from Port Adelaide in the south to Port Darwin in the north, gave great impulse to exploration.

5. The "Gold fever," though it led to much disorder at first, in the end ultimately made Australia a nation. Many persons made rapid fortunes; but many more, who came to dig for gold, remained to till the soil, and tend the sheep and cattle.

6. The first settlement in 1788 included a population of about 1000 persons. By 1851 the number had risen to 350,000. The discovery of gold in that year caused an immense inrush of people from all parts of the world, and the population went up by leaps and bounds. At present the settlers and their descendants, all speaking the English language, number, as we have seen, about 3,000,000.

7. New South Wales was the parent colony of Australia, and included all the settled districts in the eastern half of the continent, together with the island of Tasmania. Victoria was cut off, and made independent in 1851, Tasmania in 1855, and Queensland in 1859. The settlement in West Australia commenced in 1829, and South Australia was made a separate colony in 1834.

8. For a long time the settlements in New South Wales were confined to a broad strip of land lying between the mountains and the sea: but when it was discovered that the western slopes of the mountains formed good sheep-runs, numbers of sheep farmers settled there.

9. Other fertile parts were gradually opened up, and some knowledge was acquired of the vast interior. But, as we have already pointed out, the dense heat, the want of water, and the terrible scrub, combined to make the work of exploration both difficult and dangerous.

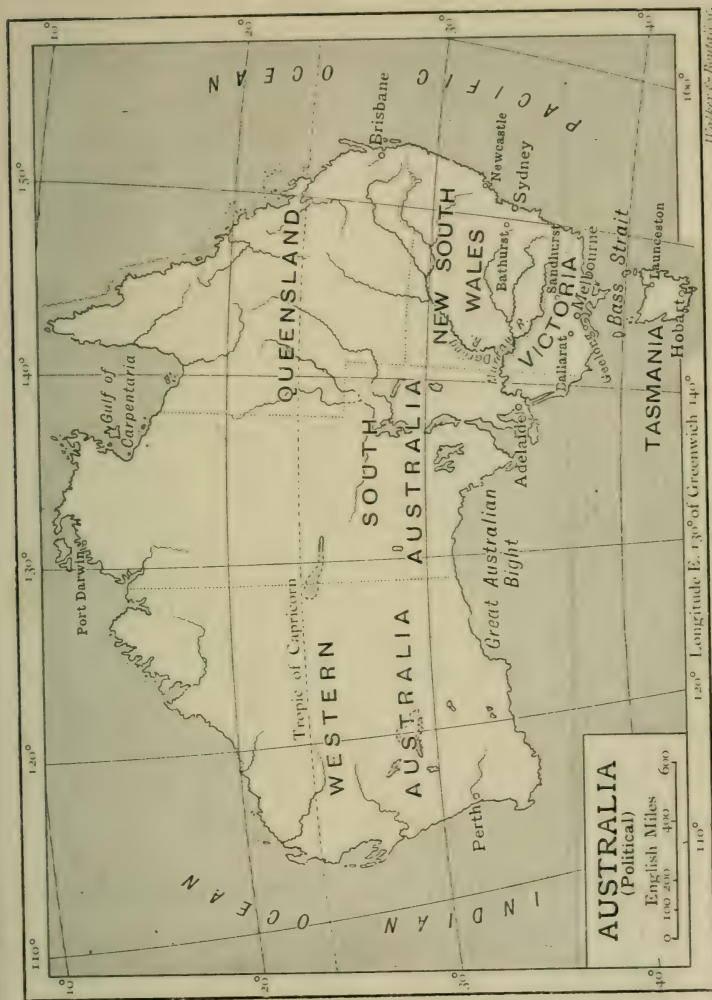
10. It was not till the year 1862 that any explorer succeeded in crossing the continent, except near the coast. In 1860 the Government of South Australia offered a reward of £10,000 to any one who should succeed in making a journey through the middle of the country from south to north. Mr. Sturt, with a party of nine followers, undertook the task, and was suc-

cessful in his third attempt. Following the route taken by Sturt, a telegraph line was constructed from Adelaide to Port Darwin. This line connects all the principal cities of Australia with London.

11. The fixed stations of this telegraph line, where food and water supplies could be obtained, offered tempting starting-points for new explorers. Previous to 1872 the whole of the vast area, nearly one-third of the whole continent between the telegraph line and the West Australian settlements was a blank. It had been penetrated in several places for some distance; but all the explorers alike had been driven back by want of water, and other difficulties.

12. Since 1871 several journeys have been made across this inhospitable land, and the general result of these and other explorations is to show us that about one-half of this whole island-continent is absolutely unfit for habitation by Europeans.

13. After years of self-government, the various colonies of Australia at length agreed to unite in one great Commonwealth. In 1900 the British Parliament passed the act to constitute the Commonwealth of Australia, and a proclamation was issued in London declaring that "on and after 1st January next, the people of New South Wales, Victoria, South Australia, Queensland, Tasmania, and Western Australia shall be united



in a Federal Commonwealth"—that is, while each managed its own local affairs, the states were to be united for general purposes. Lord Hopetoun was appointed Governor-General, and on January 1, 1901, the Commonwealth of Australia was inaugurated at Sydney amid scenes of rejoicing.

14. The Federal Parliament consists of the King, who is represented by a Governor-General, a Senate, and a House of Representatives. The Senate consists of 6 Senators for each state, and the present House of Representatives has 75 members distributed as follows: New South Wales, 26; Victoria, 23; Queensland, 9; South Australia, 7; Western Australia, 5; Tasmania, 5.

On February 9, 1901, the first Federal Parliament was opened by the Duke of York (now Prince of Wales) with great pomp and ceremony.

2. *Navigator.* One who sails.

59. Victoria, New South Wales, and Queensland.

1. Victoria is the smallest, but the most thriving and the most populous; and, for its size, the most wealthy of the Australian colonies. Its area is a little larger than that of Great

Britain. It was formerly called "The Port Philip district"; but when it was made a separate colony, in 1851, it was re-named Victoria, after our Queen. And its chief town was called Melbourne, after Lord Melbourne, who was Prime Minister of England when Queen Victoria came to the throne.

2. Lying farther south than its sister colonies, and having the ocean on two of its sides, its climate is cooler and more equable than theirs. Yet its temperature in summer is much higher than is ever known in this country.

3. It is an agricultural colony with a rich fertile soil. Wheat is the chief crop, and wool is the chief export. But the wealth below the soil, in the past if not in the present, has been much greater than that of the soil above. It is said that nearly two-thirds of the total area of the colony is occupied by rocks which yield gold. Gold mining even now gives employment to many thousands of persons.

4. Melbourne, with a population of 500,000 (with suburbs), is the capital. It is the largest commercial town in the colony, and the most important city in Australia. It is built on both sides of the River Yarra. Melbourne has more than one-fifth of the commerce of the whole of Australia. Its chief exports are wool and gold. Ballarat and Sandhurst owe their rise and pro-

sperity to the gold-mining industry. Geelong, on Port Philip, manufactures "tweeds." The first cloth mill in Australia was built here.

5. New South Wales is about five times the size of England. Its population is a little more than one-sixth that of London. Its riches consist in sheep and cattle ; and, to a less extent, in its minerals, especially coal, silver, and gold ; and in its agricultural products. Wheat and maize are the chief crops.

6. Sydney, the capital of the colony, occupies a magnificent site on the southern shores of Port Jackson, one of the finest harbours in the world. The city is second only in size to Melbourne. Newcastle, next to Sydney, is the most important port. It exports coal in considerable quantities. Bathurst is the largest town in the western part of the colony ; and stands in the centre of the principal wheat-growing district.

7. Queensland, the youngest of the Australian colonies, has been called "a land of pine and of palm." It covers an area in the north-east more than twice as large as that of New South Wales, and two-thirds of it lies within the tropics. The summer heat is very great, but the hot dry winds from the interior are not felt. The rainfall over the whole colony is very unequal. The Darling Downs in the south-east form one of the finest sheep-runs in the world.

The western portion of the colony is desert, and is called the "Never Never Country."

8. Sheep grazing and agriculture, the latter carried on mostly by Chinese, are the chief industries of the country; but there is an abund-



GEORGE STREET, SYDNEY.

ance of wealth in the minerals, and in the enormous forests, awaiting the capital and labour necessary for its development. Wool and gold are the chief exports.

9. Brisbane, on the river of the same name, is the capital, and the only town of any size.

It has a population of about one-fifth that of Sydney. The population of the whole colony is about half a million, that is, it is less than that of Liverpool, or Manchester.

60. South Australia, West Australia, Tasmania.

1. South Australia, so called because it was once a district confined to the south of the continent, now embraces the great middle slice of the country, extending from north to south, having Queensland, New South Wales, and Victoria on its east side, and Western Australia on its west. Its area is more than ten times that of Victoria.

2. This colony includes the salt lake district of Australia, and enormous tracts of scrub and desert lying to the west and north. It was made a Crown colony in 1841. As the discovery of gold gave a great impulse to the progress of Victoria and New South Wales, so the vast stores of copper ore discovered at Burra Burra in 1845 started South Australia on its successful career. The mines are now practically worked out.

3. Of course, over so extensive an area there must be variety of climate; but, generally, the weather may be said to be dry and very hot

in summer, and mild in winter, without frost. The settled parts are subject to the hot scorching winds which come from the interior.

4. The population of South Australia is about 360,000. Its only large town is Adelaide, the capital, which stands on the River Torrens, near St. Vincent Gulf. Its population (with suburbs) is about 173,000. The exports of this colony are wool and wheat, but its chief trade is with the sister colonies.

5. Western Australia is the largest of the Australian colonies, and takes in more than one-third of the whole continent. Yet its total population is less than that of a fourth-rate town in England. Perth, the capital, is built on the Swan River, about 12 miles from its mouth. Freemantle is its port. Perth has a population of about 44,000. Of late, gold has been discovered in this colony, and companies have been formed in England for working the mines.

6. Tasmania is a mountainous country about the size of Scotland, and is, in many respects, very much like Scotland. Its rivers are short, its lakes are large, and its highest mountain-tops are capped with snow during the winter.

7. The rainfall of the island and the temperature are about the same as those of England, but the amount of sunshine is greater. "The air is drier, the atmosphere clearer, and the

extremes of heat and cold less trying than in the mother country."

8. For many years sheep-farming was the main industry of Tasmania; but, of late, agriculture, mining, and especially fruit-growing have made rapid strides. There is plenty of room for further growth, as the total population scarcely exceeds that of Leicester. Hobart on the Derwent, and Launceston on the Tamar, are the two chief towns and ports. The chief exports from Tasmania are tin, wool, timber, gold, and fruit.

1. *Embraces.* Includes, contains.

NEW ZEALAND

61. General View.

1. To learn the position of New Zealand in the Pacific Ocean, and with regard to Australia, you must consult the map on page 159. The distance from Sydney, the capital of New South Wales, to Wellington, the capital of New Zealand, is about 1200 miles.

2. Now turn to the map on page 196, and see what we learn from it. Firstly, we note that New Zealand consists of two large islands, North Island and South Island, and a few other islands, most of them extremely small.

3. Then, if you turn the map upside down, it may strike you that the two islands together somewhat resemble a leg and foot, but broken into two parts by a broad strait called Cook's Strait.

4. Further, the map will tell you that the islands are long and narrow, and that their coast lines in one part of each island are not very much broken. The exceptions are the north-east coast of North Island, where there are many bays, the largest being the Bay of Plenty and the Gulf of Hauraki; and the south-west coast of South Island, which is cut into lochs called sounds, like the north-west coast of Scotland.

5. There are also many good harbours, the positions of which you can find on the map—notably those of Auckland and Wellington in North Island; and Lyttelton and Dunedin in South Island.

6. Next look at the surface. You will see that both islands are mountainous; but that the South Island is the more mountainous of the two. You will see, too, that the mountain chains of the South Island lie near the west coast, while those of the North Island lie nearer the east coast.

7. Looking again at the map, we see that in South Island, a lower range of mountains runs

1. Auckland
2. Taranaki
3. Hawke Bay
4. Wellington
5. Nelson
6. Marlborough
7. Canterbury
8. Westland
9. Otago



through the centre, parallel to the western range. To the east of this central range lie the Canterbury Plains, a name well known in England as the place from which we get the best lamb and mutton.

8. And, lastly, you will see that New Zealand possesses many rivers; and that, for the most part, they flow east and west, and have but short courses. There are numerous lakes in the mountains and valleys of South Island, and one large lake in North Island.

62. Surface.

1. New Zealand has been called the Britain of the south, because the islands very much resemble Great Britain in their scenery and climate. "Many parts of New Zealand remind one of the romantic scenery of Scotland. If a long-sleeping Briton could be set down among the Otago Hills, and told he was travelling in the west of Scotland, he might be easily deceived, though he knew Scotland well."

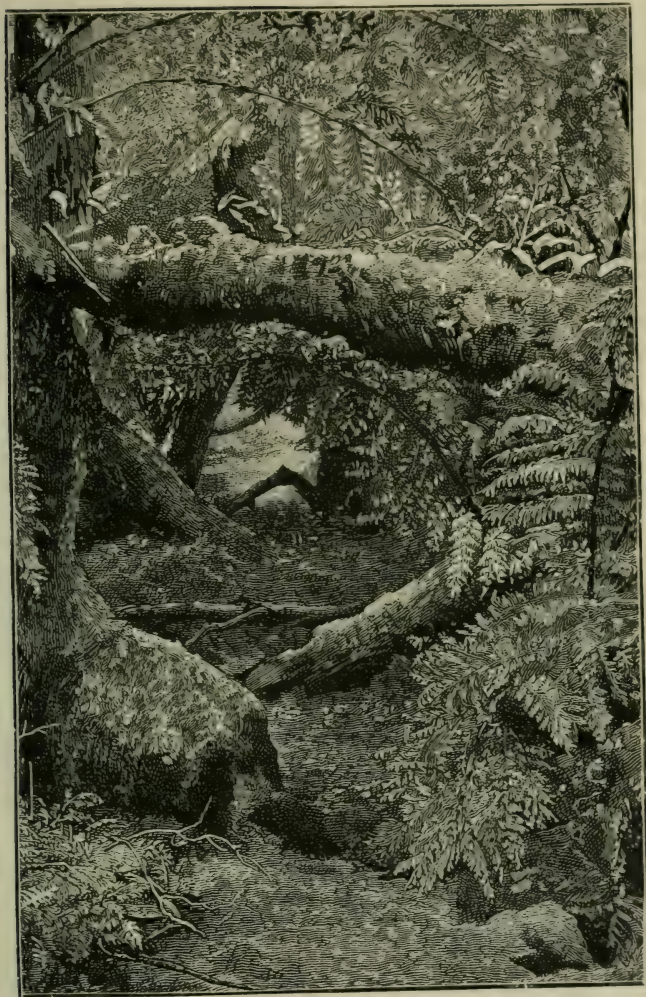
2. But there are some features of New Zealand entirely wanting in the British Islands. There is, for instance, a chain of mountains, with peaks clothed in eternal snow, three times the height of any at home; and with glaciers vaster than

those of Switzerland. Then there is the volcanic and lake district in the centre of the North Island, of which we may say : "There is nothing like it anywhere else in the world." And, lastly, there are the ferns. "New Zealand is a land of ferns. Here are tree ferns 30 or 40 feet high, beautiful filmy-ferns growing on trunks of trees ; while rocks and shady banks, and often the whole surface of the ground for miles, are covered with ferns in great variety. In the North Island the fern has to be burnt off before the land is fit for cultivation."

3. The great mountain chain is the Southern Alps, running parallel to the west coast in South Island. The highest summit, Mount Cook, is called by the natives "the Cloud Piercer." It is the highest mountain in New Zealand. The highest peaks in North Island are volcanoes.

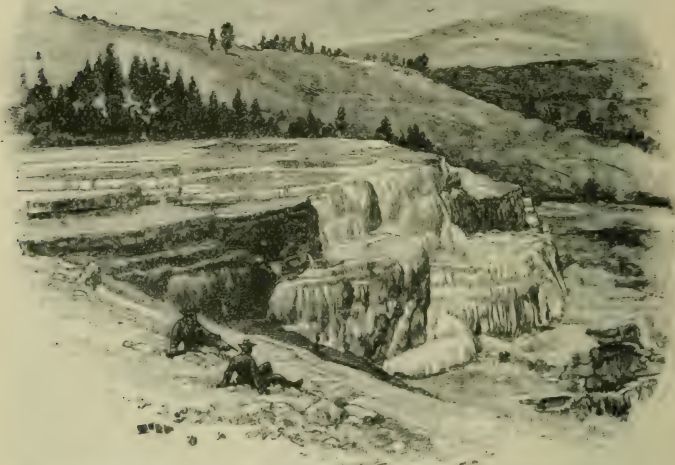
4. In the district referred to, volcanic forces below the surface are constantly at work. This is shown by smoking craters, boiling springs, hot water lakes, seething mud pools, and smoking geysers. In some parts the ground is unsafe to walk upon, for you may chance to place your foot in a tiny scalding bubbling geyser.

5. The largest lake is Lake Taupo, "a veritable inland sea, six times the size of Loch Lomond, with dark blue waters of unknown depths." The River Waikato carries the surplus waters



A NEW ZEALAND SCENE.

of the lake into the sea, and about 25 miles from its outlet it passes through a striking group of hot springs along its banks, while clouds of steam ascend from hot cascades falling into the river, and from basins of scalding water. River Waikato is the largest of New Zealand rivers.



THE WARM SPRINGS AND PINK TERRACES, NEW ZEALAND, DESTROYED BY VOLCANIC ERUPTION.

6. Perhaps the most wonderful part of the lake region was the boiling springs, and flinty basins and terraces. These were destroyed in 1886 by the eruption of a neighbouring volcano.

7. In the mountains and valleys of the Southern Alps, there are numerous Alpine lakes fed by the melting glaciers.

8. The rivers of South Island are short and rapid, and navigable only a few miles from their mouths. They are liable to floods from the melting of the snows.

9. There is a smaller island lying to the south of South Island called Stewart Island. It has an irregular coast line, with some good harbours. Its forests yield valuable timber, and the surrounding seas abound with fish.

2. *Eternal.* Everlasting.

Glaciers. Rivers formed of ice instead of water.

4. *Geyser.* Boiling spring.

6. *Eruption.* Breaking out.

63. Climate, Productions, Industries, Commerce.

1. New Zealand stretches through about thirteen degrees of latitude, and as we should expect, therefore, the climate varies considerably. On the whole, we may say it is bracing, mild, and equable. Except on the mountains, ice and snow are almost unknown in the North Island. The climate of South Island may be compared with that of the south of England, but the rainfall is greater everywhere: the atmosphere is drier than it is in Great Britain.

2. The most striking peculiarity in the climate of New Zealand is the constant winds. Dunedin, the least windy place on the coast, has but about 100 calm days in the year; while the towns on the straits between the islands seldom get a calm day at all. The prevalent winds come from the north-west; and, being laden with moisture, make the west coast more rainy than the east.

3. The cereals and the fruits of the south temperate zone grow profusely; but they have all been introduced by the settlers. Neither native grain nor fruit exists in New Zealand. The most valuable native production is the timber and gum from the Kauri pine. This pine is a magnificent tree which grows to a height of from 150 to 200 feet, and furnishes excellent timber. Whole towns have been built of it, and it is largely exported. Another noted production is native flax, of which ropes of great strength are made.

4. Sheep-farming and agriculture are the chief occupations. The colony owns about 10 million sheep. The chief minerals are gold, coal, iron, and silver. Gold is found in all parts, but the amount collected decreases every year. Some of the coal-fields are very extensive.

5. The chief exports are wool (nearly all of

which goes to London), gold, grain, and flour, and frozen meat. The chief imports are clothing, steel, iron goods, and sugar. Coal is also imported as return cargo from New South Wales.

6. The goods manufactured in New Zealand, such as woollen goods, hosiery, blankets, soap, paper, leather, etc., are all for home consumption. For its population, New Zealand is well supplied with railways and telegraphs.

2. *Prevalent.* Those which usually blow.

64. History.

1. New Zealand was discovered by Tasman, a Dutch navigator, in 1642, but Captain Cook was the first traveller who explored its coasts, more than 100 years after, and made the islands known to the world. The country was already inhabited by a fine race of brown savages.

2. "The Maoris, as the natives call themselves, were from the first, brave, generous, and warlike. About as tall as Englishmen, they have strong, muscular frames, with legs that are short for their stature. The head is well shaped, and, though the lips are generally thick, the features are not unpleasing, and are often handsome. Their skin is usually an olive-brown, and most of them have long, black, slightly-

waved hair. Tattooing was practised by both sexes, but is now almost abandoned. At the time of Cook's visit, and down to the formation of the colony, the tribes lived in a chronic state of warfare. They fought with clubs and spears of heavy wood and stone, and they ate the bodies of their victims, believing that this vile practice imparted courage and strength to those who partook of the feast.

3. "The earliest European settlers found the Maoris in a state of civilization not often to be met with among a barbarous and savage people. They lived together in villages, in huts well constructed of wood and reeds, and protected by ditches and palisades. They prepared flax from a native plant, and wove it into mats and clothing, which they dyed with various kinds of bark and roots, and ornamented with the bright feathers of birds. They also made cloaks of great value from the dressed skins of their dogs.

4. "Although they had no written language, they had numerous songs and proverbs, legends, and traditions, which were handed down from generation to generation. They knew the plants, the birds, the insects, and the rocks of their own country, and they gave them all distinctive names. They had words in their language for the seasons, for all the chief stars, and for measures of length.

5. "They had, too, numerous games of skill similar to our own, such as flying kites, skipping ropes, wrestling, stilt-walking, and others. They had their temples and priests, omens and



A MAORI.

sacrifices ; and they held a firm belief in a future state. They were great orators, and at least one son of every chief had to learn the traditions, laws, and rites of his tribe, and to be an orator and a poet, as well as a warrior a hunter, and a seaman."

7. Missionaries have been at work among the Maoris since almost the beginning of the present century. Their labours have been crowned with remarkable success, not only in converting the people, but in encouraging peaceful habits, and a more civilized mode of life.

8. The first white settlers were probably deserters from the whale ships that called at the islands, and escaped convicts from New South Wales. The first regular colony was planted in 1840, in North Island.

9. Disputes about land caused a war between the Maoris and the colonists, which began in 1843, and did not end till 1869. Meantime the colony increased at a rapid rate, and in 1852 self-government was granted.

10. The Government is modelled on that of our own. The Governor represents the King, by whom he is appointed; the Legislative Council represents our House of Lords, except that the members are *elected* for life; and the Lower Chamber, the members of which are elected for three years, represents our House of Commons.

2. *Tattooing.* Marking lines, figures, etc., on the skin with a needle, and rubbing in a stain.

Chronic. Continual.

4. *Legends.* Stories or tales handed down from times gone by.

Traditions. Customs, unwritten laws, etc., handed down from forefathers.

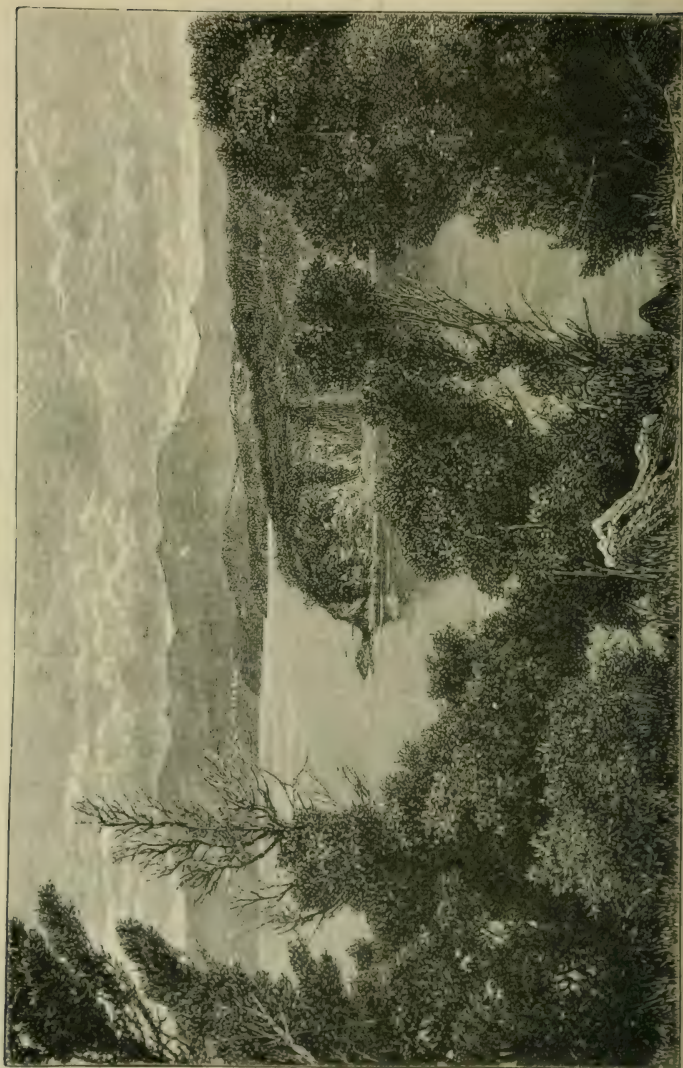
65. Provinces and Towns.

1. Before 1875 New Zealand was divided into provinces. In that year the provinces were abolished; smaller divisions or counties were substituted. The country is, however, still best known under the old names of its provinces.

2. Auckland is the chief of the four provinces of North Island. Here the first settlements were made, and here lived the most powerful of the native tribes. The city of Auckland is a busy port, built on an excellent harbour in the Gulf of Hauraki. It was once the capital of New Zealand, and still is the largest city in the colony. It exports the timber and gum of the Kauri pine, which grows only in this province.

3. The seat of government is now at Wellington, a city built on the extreme south of North Island. It is central, and easy of access from both islands. Most of the houses here are built of wood, because wooden houses withstand the shocks of earthquakes better than those constructed of stone, and the neighbourhood is subject to occasional earthquakes. The city has an excellent harbour capable of receiving the largest ships.

4. The province of Canterbury occupies the central portion of South Island, stretching from



PORTOBELLO, OTAGO HARBOUR.

the sea westward to the Alps. About one-third of the province consists of low table-lands and plains. These are the Canterbury Plains, celebrated as grazing grounds for sheep and cattle.

5. The capital of the province is Christchurch, the "City of the Plains." It is built on the River Avon, a few miles inland. Lyttelton is its port.

6. Dunedin, the capital of the old province of Otago, is the first commercial city in New Zealand. Otago may be called the Scotch province, just as Canterbury is the English province. It is the gold-producing colony, and the most prosperous district in the island. Dunedin possesses a fine harbour, which is the outlet for the productions of the south.

7. Nelson, on Tasman Bay, is the port for the north of the island. It is very pleasantly situated among hop and fruit gardens.

8. The total population of New Zealand is 888,000, larger than that of Glasgow, and more than one-fourth of this population is to be found in its four principal cities—Auckland, Dunedin, Christchurch, and Wellington. The Maoris, who in Cook's time are said to have numbered about 100,000, now amount to about 40,000. They live for the most part in North Island.

GENERAL SUMMARY.

SCOTLAND.

Extent—*Area*, 30,000 square miles or 19,200,000 acres.

Length of coast line about 2,700 miles.

Population, 4,483,880.

Coast Features.

CAVES—

East Coast : St. Abb's Head, Fife Ness, Buchan Ness, Kinnaird Head, Tarbat Ness.

North Coast : Duncansby Head, Dunnet Head, Cape Wrath.

West Coast : Ardnamurchan Point, Mull of Cantyre.

South Coast : Mull of Galloway, Burrow Head.

FIRTHS AND LOCHS—

East Coast : Firth of Forth, Firth of Tay, Moray Firth, Cromarty Firth, Dornoch Firth.

North Coast : Thurso Bay.

West Coast : Loch Broom, Loch Torridon, Firth of Lorne, Firth of Clyde.

South Coast : Luce Bay, Wigtown Bay, Solway Firth.

STRAITS AND CHANNELS—

- Pentland Firth** between Caithness and Orkney Isles.
The Minch between Lewis and the Mainland.
Little Minch between the Hebrides and Skye.
Sleat Sound between Skye and Inverness.
Sound of Mull between Mull and Argyle.
Sound of Jura between Jura and the Mainland.
North Channel between Scotland and Ireland.

ISLANDS—

- Orkney Islands**—*Mainland, Hoy, etc.*
Shetland Islands—*Mainland, Yell, Unst, etc.*
Outer Hebrides—*Lewis and Harris, North and South Uist, etc.*
Inner Hebrides—*Skye, Mull, Staffa, Iona, Jura, Islay, etc.*
Bute. Arran.

Surface Features.

MOUNTAINS—

- Northern Highlands**—*Ben Attow, 4,000 feet, Ben Wyvis.*
Grampians—*Ben Nevis, 4,406 feet, Ben Mac Dhui, Cairngorm, Cairntoul, Ben Lomond, etc.*
Sidlaw Hills, Ochil Hills, Campsie Fells, Pentland Hills, Lammermoor Hills, Lowther Hills.

PLAINS AND VALLEYS—

- Central Plain, Strathmore, Glenmore, Carse of Gowrie, Carse of Stirling.**

RIVERS—

- East Coast* : **Tweed, Forth, Tay, North and South Esk, Dee, Don, Spey, Findhorn.**
West Coast : **Clyde, Irvine, Ayr, Doon.**
South Coast : **Dee, Nith, Amman, Esk.**

LAKES—

- Lochs Lomond, Katrine, Earn, Tay, Rannoch, Ericht, Awe, Ness, Lochy, Shin.**

Counties and County Towns.

EIGHT NORTH-WEST COUNTIES.

Shetland,	<i>Lerwick.</i>
Orkney,	<i>Kirkwall.</i>
Caithness,	<i>Wick.</i>
Sutherland,	<i>Dornoch.</i>
Ross & Cromarty,	<i>Dingwall.</i>
Inverness,	<i>Inverness.</i>
Argyleshire,	<i>Inveraray.</i>
Bute,	<i>Rothsay.</i>

SEVEN NORTH-EAST COUNTIES.

Nairn,	<i>Nairn.</i>
Elgin,	<i>Elgin.</i>
Banff,	<i>Banff.</i>
Aberdeenshire,	<i>Aberdeen.</i>
Kincardine,	<i>Stonehaven.</i>
Forfar,	<i>Forfar.</i>
Perthshire,	<i>Perth.</i>

THREE CLYDE-BASIN COUNTIES.

Lanark,	<i>Lanark.</i>
Dumbarton,	<i>Dumbarton.</i>
Renfrew,	<i>Renfrew.</i>

SEVEN FORTH-BASIN COUNTIES.

Kinross,	<i>Kinross.</i>
Clackmannan,	<i>Clackmannan.</i>
Fife,	<i>Cupar.</i>
Linlithgow,	<i>Linlithgow.</i>
Edinburgh,	<i>Edinburgh.</i>
Haddington,	<i>Haddington.</i>
Stirling,	<i>Stirling.</i>

EIGHT COUNTIES OF THE LOWLAND HILLS.

Peebles,	<i>Peebles.</i>
Selkirk,	<i>Selkirk.</i>
Roxburgh,	<i>Jedburgh.</i>
Berwick,	<i>Greenlaw.</i>
Ayrshire,	<i>Ayr.</i>
Wigtown,	<i>Wigtown.</i>
Kirkcudbright,	<i>Kirkcudbright.</i>
Dumfries,	<i>Dumfries.</i>

Most Important Towns.

Glasgow (836,000). On the Clyde. Manufactures machinery, cotton goods and chemicals. It is the most important shipbuilding city in the kingdom, and has a large export and import trade.

Edinburgh (341,000). Near the Firth of Forth. Leith is its port. The capital of Scotland and a university city. Has a large book trade.

Dundee (165,000). On Firth of Tay. Manufactures jute, and linen goods, and marmalade. Imports jute, grain, and timber.

Aberdeen (171,000). A university city on the Dee. Manufactures cotton and woollen goods, combs, and paper. Exports granite and salmon.

Greenock (71,000). An important port with a considerable industry in shipbuilding.

Paisley (87,000). Staple manufacture is sewing cotton.

Kilmarnock (34,000). Makes carpets.

Stirling (17,000). Famous castle.

Inverness (21,000). Capital of the Highlands.

Dunfermline (17,000). Manufactures fine linen.

Port-Glasgow (15,000). Shipbuilding.

Galashiels (15,000). Makes 'Scotch Tweed' and boots and shoes.

Dumbarton (15,000). Has iron foundries and shipbuilding yards.

Montrose (21,000), **Arbroath** (22,000), **Forfar** (13,000), make linen goods.

Wishaw (15,000), **Motherwell** (30,000), **Coatbridge** (36,000)

Airdrie (22,000), are coal and iron towns.

Wick and **Peterhead** are head-quarters of the herring fishery.

Falkirk has great cattle markets.

St. Andrews is the oldest university town.

Perth was once the capital of Scotland.

Chief Railways.

1. North British—

(a) *Edinburgh to Glasgow.*

(b) „ „ *Galashiels, Hawick, and Carlisle.*

(c) „ „ *Dunbar and Berwick.*

(d) „ „ *Dundee.*

2. Caledonian—

(a) *Glasgow to Edinburgh.*

(b) „ „ *Carlisle.*

(c) „ „ *Perth and the Northern towns.*

(d) „ „ *Oban.*

3. Glasgow and South-Western to *Dumfries and Carlisle.*

4. Highland—*Perth to Inverness and Wick.*

5. Great North of Scotland—*Aberdeen to Ballater, and Aberdeen to Elgin.*

IRELAND.

Extent—*Area*, 32,580 square miles, or nearly 21,000,000 acres.

Length of coast line, about 2,000 miles.

Population, 4,450,000.

Coast Features.

CAVES—

East Coast: Carnsore Point, Wicklow Head, Howth Head.

North Coast: Fair Head, Malin Head, Horn Head, Bloody Foreland.

West Coast: Malinmore or Teelin Head, Erris Head, Achill Head, Slyne Head, Loop Head, Dunmore Head, Bolus Head, Cross Head.

South Coast: Mizen Head, Cape Clear, Old Head of Kinsale, Hook Head.

BAYS, LOUGHS, AND HARBOURS—

East Coast: Wexford Harbour, Dublin Bay, Dundalk Bay, Dundrum Bay, Belfast Lough.

North Coast: Lough Foyle, Lough Swilly.

West Coast: Donegal Bay, Sligo Bay, Clew Bay, Galway Bay, Mouth of the Shannon, Dingle Bay, Kenmare Bay, Bantry Bay.

South Coast: Kinsale Harbour, Cork Harbour, Youghal Harbour, Waterford Harbour.

ISLANDS—

Rathlin, Arran Islands, Achil, Clare, Inisboffin, South Arran Isles, Valentia, and Clear.

Surface Features.

MOUNTAINS—

In the East: Wicklow and Mourne.

In the North: Antrim, Donegal

In the West: Nephin, Connemara, Kerry, Macgillicuddy Reeks.

Chief height in Macgillicuddy Reeks is *Carntul* (3,400 feet), the highest peak in Ireland.

In the South: Knockmealdown and Slieve Bloom.

PLAINS—

Great Central Plain in which is the *Bog of Allen*.

Northern Plain between the rivers Bann and Foyle.

RIVERS—

East Coast: Slaney, Liffey, Boyle, Lagan.

North Coast: Bann, Foyle.

West Coast: Erne, Shannon (224 miles long).

South Coast: Bandon, Blackwater, Lee, Suir, Nore, Barrow.

LAKES—

Lough Neagh (154 square miles), Loughs Corrib, Erne, Conn, Mask, Allen, Ree, Derg, and the Lakes of Killarney.

Provinces, Counties, and County Towns.

ULSTER (NINE COUNTIES).

Antrim,	<i>Belfast.</i>
Down,	<i>Downpatrick.</i>
Armagh,	<i>Armagh.</i>
Monaghan,	<i>Monaghan.</i>
Tyrone,	<i>Omagh.</i>
Londonderry,	<i>Londonderry.</i>
Donegal,	<i>Lifford.</i>
Fermanagh,	<i>Enniskillen.</i>
Cavan,	<i>Cavan.</i>

MUNSTER (SIX COUNTIES).

Waterford,	<i>Waterford.</i>
Tipperary,	<i>Clonmel.</i>
Cork,	<i>Cork.</i>
Kerry,	<i>Tralee.</i>
Limerick,	<i>Limerick.</i>
Clare,	<i>Ennis.</i>

LEINSTER (TWELVE COUNTIES).

Louth,	<i>Dundalk.</i>
Meath,	<i>Trim.</i>
Westmeath,	<i>Mullingar.</i>
Longford,	<i>Longford.</i>
King's County,	<i>Tullamore.</i>
Queen's County,	<i>Maryborough.</i>
Kildare,	<i>Naas.</i>
Dublin,	<i>Dublin.</i>
Wicklow,	<i>Wicklow.</i>
Carlow,	<i>Carlow.</i>
Kilkenny,	<i>Kilkenny.</i>
Wexford,	<i>Wexford.</i>

CONNAUGHT (FIVE COUNTIES).

Galway,	<i>Galway.</i>
Roscommon,	<i>Roscommon.</i>
Mayo,	<i>Castlebar.</i>
Sligo,	<i>Sligo.</i>
Leitrim,	<i>Carrick-on-Shannon.</i>

Most Important Towns.

Dublin (290,000). The capital, on the Liffey. *Kingstown* (25,000), a mail-packet station, is its port. Manufactures spirits, stout and porter.

Belfast (350,000). The centre of the linen manufacture. A great shipbuilding town.

Cork (76,000). Manufactures frieze, gingham, and gloves. Exports dairy-produce and live-stock.

Limerick (38,000). Exports live-stock. Makes a little lace, grinds flour, and cures bacon.

Londonderry (40,000). Manufactures linen goods and builds ships.

Waterford (27,000). Exports dairy-produce and live-stock.

Drogheda (12,000). Makes linen, cotton goods, and leather. Exports corn, cattle, and manufactured goods.

Newry (12,000). Flax spinning and weaving, rope and sail making.

Galway (13,000), **Kilkenny** (12,000), export marble.

Wexford (12,000), **Sligo** (10,000), **Tralee** (10,000), export corn, dairy-produce, live-stock, etc.

Dundalk (12,000). Flax spinning, tanning, and shipbuilding.

Queenstown (9,000). A place of call for the Atlantic liners.

Athlone (7,000). Makes friezes, felt hats, linen, etc.

Chief Railways.

1. **Great Northern**—*Dublin to Belfast and Londonderry.*
2. **Midland Great Western**—*Dublin to Galway and Sligo.*
3. **Great Southern and Western**—*Dublin to Kilkenny, Limerick, and Cork.*
4. **Belfast and Northern Counties**—*Belfast to Londonderry.*
5. **Dublin, Wicklow, and Wexford.**
6. **Waterford and Limerick.**

CANADA AND NEWFOUNDLAND.

Extent—*Area*, 3,600,000 square miles.

Population, 5,500,000.

Coast Features.

CAPES—

Chudeigh, north of Labrador.

Race, east of Newfoundland.

Breton, east of Cape Breton Island.

Sable, south of Nova Scotia.

BAYS, GULFS, AND STRAITS —

East Coast : **Bay of Fundy**, **Gulf of St. Lawrence**, **Straits of Belle Isle**, **Hudson Strait**, **Hudson Bay**.

North Coast : **Davis Strait**, **Baffin Bay**, **Lancaster Sound**, **Melville Sound**, **Behring Strait**.

ISLANDS—

Newfoundland, **Prince Edward Island**, **Cape Breton Island**, **Vancouver**, **Queen Charlotte Islands**.

Surface Features.

MOUNTAINS—

Rocky and **Cascade**. *Mts. Brown* (16,000 feet) and *Hooker* in the 'Rockies' are the chief heights.

RIVERS—

St. Lawrence, **Mackenzie**, **Red River**, **Saskatchewan**, **Nelson** and **Frazer**. **Ottawa** is the chief tributary of the *St. Lawrence* and *Assiniboine* of the *Red River*.

LAKES—

Superior, **Huron**, **Erie**, **Ontario**, **Winnipeg**, **Athabasca**, **Great Bear**, and **Great Slave**.

Provinces and Chief Towns.

Ontario—*Ottawa* (60,000). Capital of the Dominion. Exports lumber, grain, etc.

Toronto (208,000). Lumber trade.

Hamilton (52,000). Makes iron, cotton, and woollen goods.

London (38,000). Petroleum refineries, etc.

Kingston (18,000), *Brantford* (16,000). Trade in agricultural produce.

Quebec—*Montreal* (267,000). The largest town in the Dominion and the commercial capital. Makes boots, shoes, clothing, railway carriages, etc. Exports corn, flour, and timber.

Quebec (69,000). The capital of the province and the centre of the lumber trade.

Three Rivers (9,000). Lumber trade.

Nova Scotia—*Halifax* (41,000). British naval station and great commercial port.

New Brunswick—*St. John* (41,000). Shipbuilding, fishing, and lumber trade.

Frederickton (6,000). Lumber trade.

Prince Edward Island—*Charlotte Town* (13,000). Shipbuilding.

Manitoba—*Winnipeg* (90,000). Large carrying trade.

British Columbia—*Victoria* (20,000). Exports tinned fish and timber.

Vancouver (26,000). Smelting works.

Alberta.

Saskatchewan.

Keewatin.

Yukon.

Mackenzie.

Ungava.

Franklin.

} New provinces as yet very thinly populated.

Newfoundland—*St. John's* (29,000). Cures and exports cod fish.

Railways.

1. **Canadian Pacific.** From *Montreal* by *Ottawa* and *Winnipeg* to *Vancouver*.

2. **Intercolonial.** *Halifax* to *Montreal*.

3. **Grand Trunk.** *Quebec* to *Kingston*, *Toronto*, *Hamilton*, *Brantford*, and *London*.

AUSTRALIA.

Extent—*Area*, 2,972,000 square miles.

Population, 4,052,000.

Coast Features.

CAPIES—

Wilson, Sandy, York, North-West Cape, Leeuwin.

BAYS, GULFS, AND STRAITS—

East Coast : **Botany Bay, Port Jackson.**

North Coast : **Torres Strait, Gulf of Carpentaria.**

West Coast : **Shark Bay.**

South Coast : **Great Australian Bight, Spencer Gulf, Port Philip, Bass Strait.**

Surface Features.

MOUNTAINS—

Pyrenees, Australian Alps, Blue Mountains, Liverpool Range, Mount Stewart.

PLAINS—

The Great Plain of the South-East, East Coast Plains.

RIVERS—

Murray (tributaries—*Murrumbidgee, Lachlan, Darling*), **Fitzroy, Burdekin, Brisbane, Flinders, Victoria, Swan.**

LAKES—

Torrens, Gairdner, Amadeus, Eyre.

Colonies and Chief Towns.

Victoria—*Melbourne* (500,000, with suburbs). The largest and most important town in Australia. Exports wool and gold.

Geelong (25,000, with suburbs). Manufactures tweeds and has extensive foreign trade.

Ballarat (50,000, with suburbs). Flour and woollen mills.

New South Wales—*Sydney* (516,000, with suburbs). Great commercial port, exports coal, etc.

Queensland—*Brisbane* (122,000, with South Brisbane). Large export trade, chiefly in wool and gold.

South Australia—*Adelaide* (166,000, with suburbs). Woollen goods, leather and iron are made. *Port Adelaide* is its port.

West Australia—*Perth* (44,000). The capital.

Tasmania—*Hobart Town* (35,000). Flour and jam made.

NEW ZEALAND.

Extent—*Area*, 104,750 square miles
Population, 889,000.

Coast Features.

CAPIES—

North, East, Palliser, Farewell.

BAYS AND GULFS—

North Island : **Hauraki Gulf, Bay of Plenty, Hawke Bay.**

South Island : **Tasman Bay, Pegasus Bay, Otago Harbour.**

STRAITS—

Cook Strait between North and South Islands.

Foveaux Strait between South and Stewart Islands.

Surface Features.

MOUNTAINS—

Southern Alps. *Mount Cook* (12,349 feet) the highest point.

Mounts Egmont and Ruapehu in North Island.

RIVERS—

Waikato and Clutha.

LAKE—

Taupo.

Chief Towns.

Wellington (64,000, with suburbs). Tanning, brewing, candle and soap works, meat preserving, etc.

Auckland (82,000, with suburbs). Boiler and glass works, saw-mills, etc.

Christchurch (68,000, with suburbs). Makes boots and shoes, and exports mutton.

Dunedin (57,000, with suburbs). Woollen manufacture.

Nelson (8,000). Makes cloth, leather, soap, and jam.

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